

Public School Programs

1988-89

1989-90

- **Goals and Policies**
- **Program and Course Descriptions**
- **Procedures, Services, Publications**

Nova Scotia



**Department of
Education**

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Public School Programs

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Goals and Policies

Program and Course Descriptions

Procedures, Services, Publications



"The Minister may publish a description of the courses of study, textbooks and related material, prescribed by the Minister, and such administrative instructions and orders as he deems necessary for the effective use of such courses, textbooks, and related material."

— from Regulations Pursuant to
Section 3 of the Education Act

Foreword

The purpose of this handbook is to provide school boards, school administrators, and through them their teaching staffs, with an outline of programs and courses prescribed for public schools in Nova Scotia; and to state the provincial aims and policies that the public school program reflects, and that should apply when determining school board objectives and planning individual school board and school programs.

Available related teaching guides are listed on pages 166-167 and 179-184.



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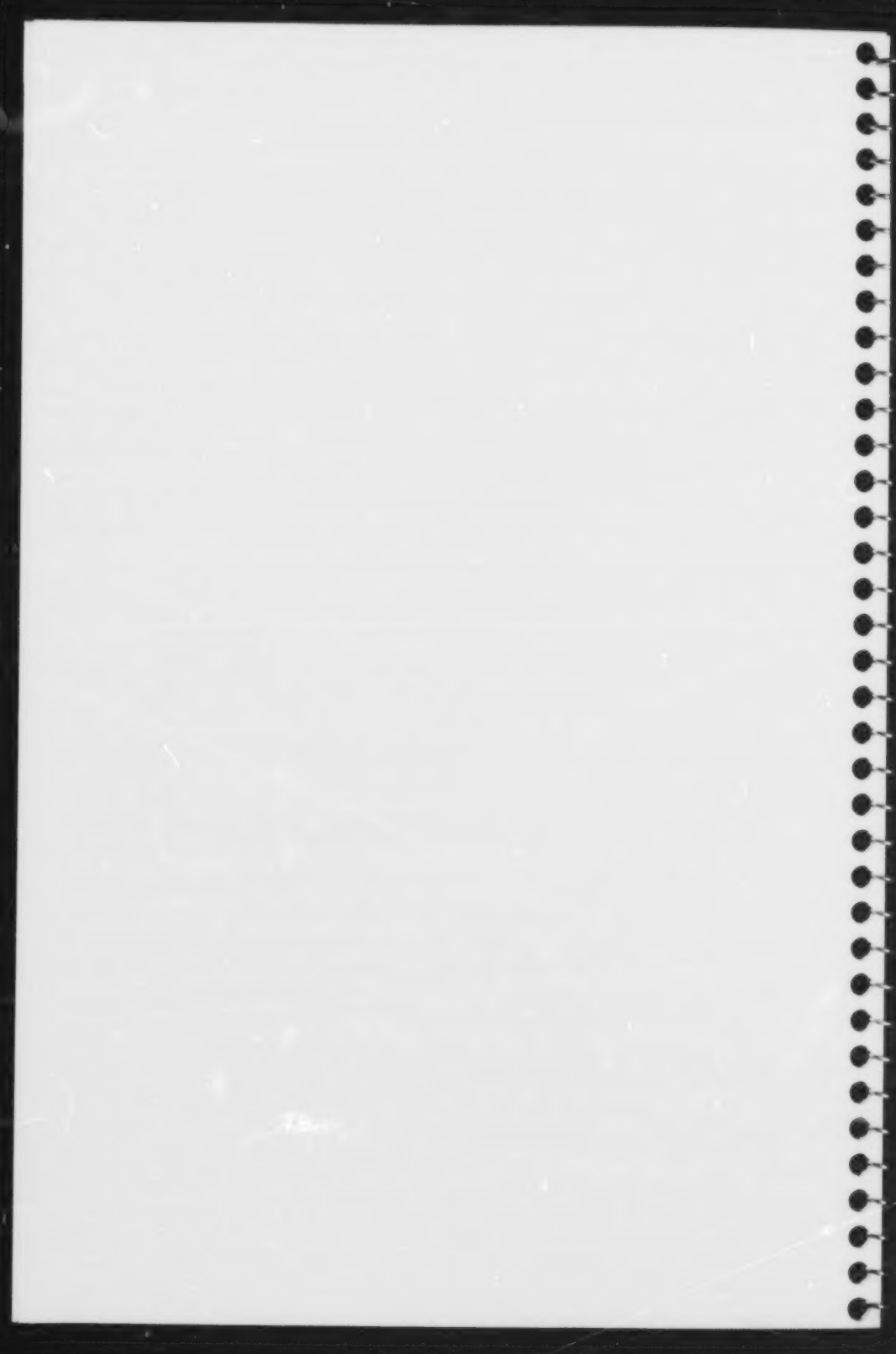
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Goals and Policies



The Goals of Public Education

The general aim of public education is to provide a school environment that will enable students to develop the ability to think clearly, to communicate effectively, to make sound judgments, and to discriminate among values.

The major goals in teaching children and young people are:

To develop skills that can help them achieve their full potential mentally, physically and socially;

To help them acquire knowledge and understanding needed for a full, rich life and for making a useful contribution to society;

To encourage positive attitudes to school and learning.

More specifically, the aims of public education are:

1. To develop competence in effective written and oral communication, with emphasis on clarity and precision in the use of language.
2. To develop competence in the use and the understanding of the basic principles of mathematics.
3. To develop knowledge and understanding of history and geography, particularly of Canada, but also of other areas of the world, so that the students may be aware of the cultural diversity of their country and of Canada's relation to other countries and peoples, and have a basis upon which to assess contemporary values.
4. To develop the habits and methods of critical thinking and reasoning and to foster the natural desire to learn and understand.
5. To provide an opportunity for students to learn both official languages of Canada, and to achieve functional bilingualism if they have the ability and desire to do so.
6. To provide opportunities in school programs and activities for students:
 - (a) to be creative and to exercise originality and imagination;
 - (b) to have their curiosity encouraged and to develop knowledge, understanding and appreciation of themselves, their fellow human beings, their environment, and the relationship of the three;
 - (c) to acquire habits, attitudes, and intellectual skills that will be helpful in employment and in training for employment;
 - (d) to develop knowledge, habits and skills related to achieving and maintaining good health and physical fitness;
 - (e) to develop civic, social, and moral responsibility and judgment;
 - (f) to develop knowledge, habits and skills related to appropriate uses of technology.

Progress of Students

The specific aims and objectives of the programs of the Department of Education should be the basis of the school boards' evaluation procedures and policies for the promotion of students. Evaluation involves a continuous appraisal of each student's growth in emotional, social, physical and intellectual development, utilizing informal as well as formal assessment techniques.

District school boards should develop and regularly review evaluation and promotion policies. While boards' policies on evaluation and promotion will be different for elementary, junior and senior high levels, consistency in these policies is expected at each level across the school district. School board policies and practices should be designed to encourage satisfactory progress by students in order to provide maximum benefit to each in accordance with his or her aspirations, needs and abilities. The aim is to have each student make progress at the best rate for him or her and to enable him or her to reach standards that are consistent with the highest level of his or her abilities.

The school's function is to do all it can to inspire its students with the desire to achieve the highest degree of excellence that is possible for them and to help them achieve this.

Thus each school has the responsibility to provide a learning environment for each student that encourages growth and development in all aspects of learning. Most children will complete the seven-year elementary school program in seven years, while a few may take six years and others may require eight or nine years. At the junior and senior high school levels, completion of the prescribed programs will require three years at each level for most students while others may require additional years.

Reporting of student progress, either through spoken communication or in written format, should focus on the student's growth and development in comparison with the expectations of the provincial program. It should not reflect in any way a comparison with other students or classes. It is of utmost importance that the reporting system developed by the district board be related to the aims and objectives of the program, and that students and parents can readily understand from the report the individual's level of performance in relation to the expectations of the program.

Adjustments for Variation in Rates and Patterns of Learning

Curriculum must be adapted to meet the varying rates, patterns, and needs of all students from elementary through

senior high school. Minor modifications of curriculum are encouraged at the local level to meet the identified special needs of students. If significant modifications are needed, requests for such changes should be made to the Department of Education for a local pilot.

Modification may take the form of adjustments in the number or type of assignments, in the selection of alternative strategies or materials to better complement the student's style of learning and/or in the methods of evaluating student progress. Such modifications are intended to encourage teaching to the individual student's strengths and interests while providing remedial instruction in appropriate areas. Students requiring modifications of this type may simply need these adjustments for a limited period of time. They should receive such attention within the regular classroom, from Primary to 12 inclusive, and not in separate classes.

Gifted/Talented Students

Administrators should make every reasonable effort to ensure that individual students who display superior academic, musical, artistic, linguistic, or physical abilities, are given the opportunity to develop these abilities. Special classes are not usually necessary nor in most cases practical, but personalized individual programs are both encouraged and supported.

Student Services

Effective guidance services are vital to the operation of a comprehensive school system. These services are an integral part of instruction and counselling for all students and are developed and provided co-operatively by teachers, administrators and trained counsellors.

The aims of guidance services are based on the aims of public school education and are designed to provide opportunities for students to acquire the knowledge and to develop the skills and attitudes necessary to:

1. understand and appreciate themselves (personal development);
2. relate effectively with others (social development);
3. develop appropriate educational plans (academic development); and
4. develop appropriate career plans (career development).

An integral part of the guidance services is career education which is designed to assist all students in acquiring the knowledge and skills necessary for making realistic educational and occupational plans.

At the elementary school level, guidance services are especially concerned with the development of self-awareness and learning to relate effectively with others. This will assist children in adjusting to school environments and in acquiring an initial understanding of the meaning of work and types of work being done in their homes, school and community.

Guidance services at the junior high level become more closely related to career education which involves the exploration stage of:

- assisting students to develop skills in decision making and problem solving;
- helping students achieve more effective levels of personal planning and decision making within the context of their abilities, interests, personalities and educational options;
- helping students to appreciate the range of careers open to them, as well as educational qualifications required for the successful pursuit of those careers;
- helping students to understand the changing roles of men and women; and
- helping students to profit fully from the instructional activities of the school and assisting students to develop study skills.

At the senior high level, the guidance program extends the junior high program and is also concerned with the preparation of students for post-secondary education, training and employment. This level gives students further practice in applying the decision-making skills which have been developed in the earlier phases of the guidance program, and helps them to make tentative occupational and educational choices related to their interests, aptitudes, values and abilities.

Guidelines to assist school personnel in the provision of guidance services and career education programs may be obtained from Curriculum Development, Department of Education, P.O. Box 578, Halifax, Nova Scotia, B3J 2S9.

Student Records

Student record cards are confidential documents. Information on the cards should be made available to parents upon request and, where necessary, be interpreted for them for complete understanding. Cumulative records should be readily available to all school professional staff who may need the information to aid students in their programs.

The information on student record cards may be released to appropriate agencies with parental or guardian consent or with student consent where the student has attained 19 years of age.

Students who have attained the age of majority (19 years), however, may legally request that the information not be shared with their parents or guardians.

When students transfer to a different school, their original cumulative records should be forwarded to the new school. Copies of those documents should be retained by the initiating school until the receiving school has acknowledged receipt of the documents.

Values in Education

Values education should be an essential part of the total educational process rather than being isolated in a separate course. Values permeate all aspects of human life and teachers inevitably express their own values to their students in a multitude of ways. Since students come from a wide variety of backgrounds, it is important that teachers become aware of the value systems held by the students, their parents, and the community from which they come.

This awareness will assist teachers as they help students achieve certain basic objectives; namely, to grow in understanding of distinctive human values; to develop appreciation of and positive attitudes toward self and others; and to develop moral responsibility and judgment.

School Library Services

The school library is an integral component of the educational program, and its goals are consistent with those of the educational program which it serves.

The educational program gives direction, form, and substance to the school library service. Teachers and library staff share the responsibility for designing and implementing an effective program which co-ordinates school library services with the curricular and personal needs of the students.

Today's school library, with its diversity of resources, helps students to develop the capacity for efficient and purposeful use of learning resources. Its aim is to encourage students to achieve their potential as learners, as citizens and as individuals.

School Programs

Elementary School: Primary-Grade 6

The elementary school curriculum should reflect an integrated approach to learning. To children, the experiences of living and learning are inseparable. Of particular importance in the learning environment is the manner in which the teacher interacts with the students, and facilitates, guides, directs and extends the learning.

Children of all ages should enjoy learning, be happy in school, and have a positive self-image. To provide experiences suitable for children, teachers must be knowledgeable about how children learn and the characteristics of the learner associated with the change in children's growth and development. Teachers should use students' natural modes of learning when planning experiences. These include active participation in play and games, sensory experiences, and manipulation of concrete materials.

An important support in all schools should be a school library to facilitate and improve teaching and learning. With appropriate teacher guidance, students should develop the ability to select and examine critically, many forms of learning resources in order to become increasingly independent learners. The microcomputer may be used as a tool for written expression, illustrating and developing thinking.

The first year of public school education is especially designed to assure, for all children, activities and experiences that will provide them with an extension of previous learning, as well as to prepare them for a confident start and satisfying progress in school learning. Because children are in many ways alike and in many ways different when they arrive at school, and will continue to be throughout life, schools must take the responsibility of providing varied learning experiences to meet the children's varying needs. The primary program should emphasize a positive adjustment from the child's previous environment as well as providing instruction in the primary provincial curriculum.

Primary Registration and Preschool Orientation

The Department of Education recommends that all children entering school for the first time in the primary grade be part of a planned program of registration and preschool orientation in the school they will be attending. The primary teachers of that school should play a major role in this activity.

To enter school children must be five years old on or before the first day of October. Proof of the child's age is required for registration. An update of health records may take place

at this time. Parents will be expected to complete appropriate school district forms.

The purpose of preschool orientation is to begin the transition between the home and the school. The aim of orientation is to help each child become more confident that he or she is valued on a personal level and begin to acquire a positive attitude toward school. Preschool orientation should include a wide range of activities such as the following — a tour of the school, meeting school personnel, opportunity to participate with the primary teacher and other children in exploratory activities such as free play, cutting, coloring, pasting, building with blocks and boxes, painting, puppets, role playing, picture books and storytelling or story reading by the teacher. Preschool orientation should be planned to cause the least disruption to the instruction of the present primary classes.

Screening should be limited to physical assessment of such areas as vision and hearing. It should not include readiness testing or other screening instruments for cognitive levels of development. There are many opportunities to gain a knowledge of the emotional, social, physical and intellectual needs of each child as a basis for ongoing program planning during the first year of school. It is through the daily observation of children during the primary year that the teacher gains information regarding the development of each child.

Compulsory and Elective Program Components

To ensure a consistency of educational opportunity among schools of the province, it is required that all elementary schools include for all children in each year's program the following: language arts (listening, speaking, reading and writing), mathematics, art, health, physical education, music, science, social studies and daily physical activity.

In Acadian Schools, English must be offered beginning at grade 3. In English schools, French must be offered for all students in grades 4 to 6. Schools may request approval for immersion programs in the second official language of the students at the level or levels considered appropriate after consultation with the Department of Education.

Gaelic as a second language may be introduced at grade 3.

Time Allotment Guide

Many of the aims and objectives of various subject areas overlap and may be most effectively achieved when subjects are integrated. Administrators should provide leadership in establishing organizational and scheduling patterns for instruction that aid natural interrelating of subject areas. Principals must monitor these schedules to ensure that no subject areas are neglected.

Principals and teachers are responsible for ensuring that a reasonable and productive balance exists among all subject areas. Timetabling at the elementary level is required because many schools have the services of specialist teachers who schedule times for students or classes. Within the classroom teacher's schedule there must be flexibility to

ensure that opportunities for learning that arise are not jeopardized because of timetabling rigidity.

To ensure that subject areas are kept within a balanced perspective, the following percentages are suggested as reasonable time allocations. The suggested time allocations should also assist those who schedule art, music, French, and physical education specialists as itinerant teachers. These percentages of time are not meant to be interpreted as being used in specific time blocks. What is meant is that, for example, approximately 10 percent of the instructional time during the school year should provide sufficient time for most learners to meet the expectations of the social studies program. However, specific provincial program expectations stated for the learner should be used in monitoring students' learning rather than the amount of time devoted to the schedule for the subject.

PRIMARY TO GRADE 2 PERCENTAGES OF INSTRUCTIONAL TIME

Art	5%
Health	5%
Language Arts	45%
Mathematics	15%
Music	5%
Physical Education	5%
Science	8% — 10%
Social Studies	8% — 10%
Daily Physical Activity	2% — 3%

GRADE 3 TO 6 PERCENTAGES OF INSTRUCTIONAL TIME

Art	5%
Health	5%
Language Arts (including second language French or English)	40%
Mathematics	20%
Music	5%
Physical Education	5%
Science	8% — 10%
Social Studies	8% — 10%
Daily Physical Activity	2% — 3%

Junior High School: Grades 7-9

The standard program and the adjusted program are available in the three years of junior high school. In these years the differences among individuals in academic achievement and personal development demand a curriculum flexible enough to be tailored to the individual. It is vital that emphasis on learning processes, as well as skill and personal development, be continued to ensure successful academic achievement and individual development.

Most students who have progressed through the elementary school will proceed to *the standard program* in junior high school. This program should be modified or enriched to meet the needs of various learners. All students should

develop an ability to become increasingly independent users of learning resources in order to meet self-directed goals and needs.

The adjusted program is an alternative program to meet the needs of junior high school students who learn at a slower rate. **Parental approval prior to placement in this program is required.** The program is designed with a full recognition of the characteristics, attitudes and skill attainment which these students have developed during their slower paced progress in elementary and/or junior high school years. Major adjustments in teaching methods, expectations, and evaluation methods are necessary features of the adjusted program.

In the adjusted program, four subjects constitute the academic core: language arts, social studies, science and mathematics. Courses in these subjects are specifically devised for students in the adjusted program. Health, personal development and relationships and physical education are also required. Other courses from which students in the adjusted program are expected to choose are art, music, home economics, industrial arts, and French. Career education should be an integral part of the adjusted program. Students in an adjusted program should be combined with students in the standard program for as many courses as possible.

NOTE: Application for permission to offer adjusted programs should be made in writing by the superintendent of schools to Curriculum Development, Department of Education, through the inspector of schools, for approval by the Minister. This application should include the student selection process and criteria for placement, options available to the student upon completion of the program, and course outlines. These course outlines should be periodically updated and regularly evaluated by the curriculum leaders in the district.

Time Allotments

The following time allotments for both standard and adjusted programs are for guidance in preparing class timetables. Class time should be computed on the basis of three percent being equivalent to at least forty minutes per week. The allotment for each course includes all regular class time given to instruction and other learning activities. Minimum and maximum percentages are provided for some subjects to allow for adjustments of the program to meet the needs of students in various classrooms. Adjustments beyond those provided for in the allotment may be made where it can be demonstrated that it is to the educational advantage of students. When pupils of a class are taking a minimum number of courses, additional time would be allotted to those courses in which it is most needed by the students concerned.

Grade 7

Course	Time Allotment
<i>Compulsory</i>	
Language Arts	18% — 24%
Social Studies	15%
Mathematics	15% — 21%
Science	9% — 12%
Physical Education	6% — 9%
Health	3% — 6%
Personal Development & Relationships	6%
<i>Electives (At Least One Of)</i>	
Art	6% — 10%
French	12%
Gaelic	9%
Home Economics	6% — 12%
Industrial Arts	6% — 12%
Music	6% — 10%

Grade 8

Course	Time Allotment
<i>Compulsory</i>	
Language Arts	18% — 24%
Social Studies	15%
Mathematics	15% — 21%
Science	9% — 12%
Physical Education	6% — 9%
Health	3% — 6%
Personal Development & Relationships	6%
<i>Electives (At Least One Of)</i>	
Art	6% — 10%
French	12%
Gaelic	9%
Home Economics	6% — 12%
Industrial Arts	6% — 12%
Music	6% — 10%

Grade 9

Course	Time Allotment
<i>Compulsory</i>	
Language Arts	15% — 21%
Social Studies	15%
Science	9% — 12%
Physical Education	6% — 9%
Health	3% — 6%
Personal Development & Relationships	6%

Electives (At Least Two Of)

Mathematics	15%
French	9% — 12%
Latin	9%
Industrial Arts	6% — 12%
Home Economics	6% — 12%
Music	6% — 10%
Art	6% — 10%
Gaelic	9%

NOTE: Administrative and guidance personnel are urged to make every effort to ensure that mathematics is elected as one of the two elective subjects by all students enrolled in grade 9 who are likely to be able to profit by its continuation at this level.

Senior High School: Grades 10-12

At the senior high school a variety of courses are available. Students may select various combinations leading to a High School Completion Certificate. (See requirements on page 23).

From among the courses offered in any school system, individual schools should provide patterns of courses appropriate to the ability and aspirations of each student. The counselling and teaching staffs of the school should help students select courses which meet the prerequisites of the post-secondary education, training or employment that interest the students and which also help develop the broader personal interests they may have.

A student who fails to make satisfactory progress in a course, but who performs satisfactorily in others, should be permitted to take the course work of the next level in the courses which he has successfully completed.

Course Numbering

All course credits shall be identified by the following course nomenclature:

Three letters will be used to identify the subject area. The letters will be followed by three digits, the first of which indicates the type of course, using the coding system outlined in the following section. The second digit shows the year in which the course is normally taken and the third digit will be used to provide a distinct number for different courses of the same subject area, type and year level.

A. First digit

The first digit denotes the type of course as follows:

Code "5" — HONORS UNIVERSITY PREPARATORY COURSES

These courses are designed for students who have demonstrated an exceptional degree of academic ability.

Code "4" — UNIVERSITY PREPARATORY COURSES

These courses are designed for students who expect to enter university or other post-secondary institutions.

Code "3" — OPEN CATEGORY COURSES

These courses are intended for heterogeneous groupings including students enrolled in university preparatory and those in high school leaving courses. These courses are designed to allow the student to extend his/her schooling beyond the "traditional" courses. Although none of the courses in this category is designed to meet specific entrance requirements into any post-secondary institution, all should be considered as designed to broaden course offerings available to all students. *However, individual courses may be considered by universities for meeting entrance requirements.*

Code "2" — HIGH SCHOOL LEAVING COURSES

These courses are designed for students who wish to obtain a high school completion certificate with a view to proceeding to employment or to some selected area of post-secondary education. Normally, universities and some other post-secondary institutions will not accept these courses to meet entrance requirements.

B. Second Digit

The second digit denotes the year in which the course is normally taught: grade 12 is numbered as 4, grade 11 as 3, grade 10 as 2.

In recording student achievement, the record should show *what* has been successfully completed — not *when*. For example, a student taking Geology 441 in his/her 11th year should have it recorded as GEL 441 and not GEL 431.

C. Third Digit

The third digit is used to denote a number of separate factors:

- i) To distinguish among different courses of the same subject area, type and grade level. For example, there are two university preparatory mathematics courses at the grade 12 level. These are coded as follows:
MAT 441 — Mathematics
MAT 442 — Mathematics
- ii) All courses having French as the language of instruction shall be designated by the third digit "6"; "7" or "8"; e.g.
HIS 431 becomes HIS 436
ECO 341 becomes ECO 346
- iii) All approved pilots shall be designated by the third digit "0."

The High School Completion Program

Course Credit for High School Completion

Schools should take note that only courses listed in *Public School Programs* or pilot courses approved by the Department of Education are recognized as credits toward a Provincial High School Completion Certificate. **This policy will be strictly enforced.**

Definition of a Credit

A credit is granted in recognition of successful completion of a course planned to contain work that would normally be completed in a minimum of 120 hours of scheduled time.

Credits for a High School Completion Certificate

General requirements for completion of the senior high school program are a minimum of 16 courses. It is strongly recommended that all students take a balanced program including some credits in mathematics, social studies and science as part of the minimum total of 16.

Of the minimum of 16 credits for high school completion, *three* must be courses in English, one at each level, and *one* must be a course in Canadian studies. In addition, in Acadian schools *three* of the credits must be courses in French for students whose first language is French. These subjects designated as compulsory at the senior high school level must be taken *and passed* in order for a high school leaving certificate to be awarded.

Of the minimum of 16 credits no more than *six* shall be for first-year courses, and at least *four* must be third-year courses.

Within the 16 course requirements for a high school completion certificate, no student shall receive credit for two courses in the same subject at the same grade level. For example, credit cannot be counted toward the 16 required credits for MAT 441 and also MAT 442 or for both ENG 231 and ENG 431.

Definition of Canadian Studies

Canadian Studies is the broad term applied to those courses in social studies, literature and second languages which develop an understanding of the historical and contemporary economic, political, social and cultural factors which make Canada a nation.

The following courses listed in Public School Programs, are considered Canadian Studies courses for the purpose of satisfying the compulsory Canadian Studies requirement for a High School Completion Certificate:

Business Organization and Management 341
Canada Studies 321
Canadian Economics 331
Canadian Geography 431 or Geography of Canada 231
Canadian History 241
Canadian Literature 441
Canadian Music Studies 331
History of North America/Canada 441
Law 341
Political Science 441
Independent Living/The Canadian Family 341

Prerequisites for Courses and Programs

Certain courses (such as mathematics, physics, German) normally require the successful completion of the previous year's course before the next year is attempted; however, prerequisites may sometimes be modified as necessary in the interest of an individual student's programming. For example, a decision may be made by the school staff that a student who has not successfully completed a course, yet is judged by the staff to be capable of doing the next year's work, should be given an opportunity to attempt it. Credit will not be given for the first course unless it is successfully completed.

Provision should be made in the school schedule to accommodate students who need to take a first-year course or part of a first-year course while taking second-year courses. The same arrangement should apply to combinations of second- and third-year courses. Flexibility must be incorporated in the timetable. This is imperative in a credit system.

High school programming should be sufficiently flexible (a) to enable teachers or teams of teachers to integrate elements of the subject matter of two or more disciplines, provided each of the course elements receives a minimum of 120 hours of instructional time; (b) to vary the lengths of units of learning within a particular credit program; and (c) to accommodate worthwhile student-initiated activities.

Supervisory persons should consider with their teachers the feasibility of encouraging supervised independent study and research, for credit in prescribed or approved programs, on the part of some of their students.

NOMENCLATURE: HIGH SCHOOL COMPLETION COURSES

		First Year Level	Second Year Level	Third Year Level
Art	1. Art (ART)	321	331	341
Business Education				
	1. Accounting (ACC)	—	331	341
	2. Consumer Education (CED)	321	—	—
	3. Business Organization and Management (BOM)	—	—	341**
	4. Data Processing (DAP)	—	—	341
	5. Office Procedures (OPP)	—	—	241
	6. Recordkeeping (REC)	221	—	—
	7. Shorthand (SHD)	—	231	241
	8. Typewriting (TYP)	321	231	241
	9. Business English (BUE)	—	—	241
	10. Business Mathematics (BMA)	—	231	—
	11. Law (LAW)	—	—	341**
Career Education	1. Creating A Career (CAC)	—	331	—
Computer Education	1. Computer Related Studies (CRS)***	—	331	441
English Language Arts				
	1. English (ENG)	221,421	231,431	241,441
	2. Canadian Literature (CLT)	—	—	441**
	3. Drama/Theatre Arts (DRA)	321	331	—
Home Economics				
	1. Home Economics* (HEC)	321	331	341
	2. Independent Living/The Canadian Family (LFS)	—	—	341**
Industrial Arts	1. Industrial Arts* (INA)	321	331	341
Languages				
	1. French (FRE)	221,421	231,431	241,441
	2. Gaelic (GAE)	421	431	441
	3. German (GER)	421	431	441
	4. Latin (LAT)	421	431	441
	5. Spanish (SPA)	421	431	441
Mathematics				
	1. Mathematics (MAT)	221,421	231,431,432	241,441,442,541
	2. Statistics (STA)	—	—	441
Music				
	1. Music (MUS)	321	331	341
	2. Canadian Music Studies (CMU)	—	331**	—
Physical and Health Education	1. Physical and Health Education (PHE)	321	331	341

Sciences

1. Biology (BIO)	221,421,521	—	441,541
2. Chemistry (CHE)	—	431,531	441,541
3. Geology (GEL)	—	—	241,441
4. Oceanography (OCE)	—	331	—
5. Physical Science (PHS)	421	231	—
6. Physics (PHY)	—	431,531	441,541

Social Studies

1. Canada Studies (CAS)	321**	—	—
2. Economics (ECO)***	—	331**	441
3. Geography (GEO)***	221,321, 421	231**,431**	441
4. History (HIS)	421	231,431	241**,441**
5. Law (LAW)	—	—	341**
6. Modern World Problems (MWP)	—	—	341
7. Political Science (POS)	—	—	441**
8. Sociology (SOC)	—	—	341

This list should not be considered as complete or limiting. Other courses may be developed on a provincial basis as electives in the future. Still other courses developed locally and approved by the Department of Education may be used as credit courses for high school completion (see page 31).

* These courses may be arranged so that a particular phase of each can serve as a full course, e.g., clothing and textiles or the Canadian family in the home economics program.

** These courses are considered Canadian Studies courses for the purpose of compulsory credit requirements.

*** It should be noted that 331 is not required as a prerequisite for 441.

Related School Programs

In addition to the previously listed courses, school districts may develop related programs for students who have special needs. This may include intermediate industrial and work experience. These programs do not provide credit toward a provincial High School Completion Certificate.

Intermediate Industrial Program — Secondary Schools

The program should be designed to meet the needs of those students who, upon completion, are planning to enter the work force or who, having the requisite ability and desire, will be going on to further occupational or vocational training.

The aims of the program are as follows:

1. To introduce students to the basic skills and aptitudes necessary for vocational training.
2. To introduce students to the basic skills and orderly work habits necessary for the practice of either a specific industrial occupation or a variety of such occupations.
3. To provide students with the opportunity to explore a variety of careers, particularly at the service and helper trade level.
4. To kindle or revive in students an interest in school and education through a program with a strong, practical emphasis.
5. To help students upgrade their academic level of education by participating in specific academic courses which have a practical emphasis and which are related directly to the activities included in the program.
6. To provide students with an educational program directly related to the occupation or occupations found in the community or region.
7. To help students develop self-assurance and confidence as well as increase social awareness and responsibility.

For those schools having *approved* intermediate industrial programs, 50 percent of total instructional time must be given to related subjects while the other 50 percent includes a combination of shop-related activities and work experience.

NOTE: Application for permission to offer the intermediate industrial program should be made in writing by the superintendent of schools through the inspector of schools to Curriculum Development, Department of Education, P.O. Box 578, Halifax, Nova Scotia, B3J 2S9, for the approval of the Minister. This application should include the student selection process, criteria for placement, duration of school program for each student, and related course outlines. These course outlines should be periodically updated and regularly evaluated by the curriculum

leaders of the district. It is necessary to inform the Curriculum Division when major changes in program are planned.

Work Experience Programs

Work experience, a segment of career education, provides students with opportunities to learn more about employment, and about the skills and attitudes necessary to obtain and hold a job. Work experience of limited duration may be a component of any of the secondary courses or programs offered in the school district but is not a total program. Students may be attached to business or industry for periods of time ranging from one half day per week to blocks of time of one to three weeks in duration. To improve the effectiveness of the experience, pre- and post-activities in the classroom should be related to the work experience.

School boards must ensure that all students enrolled in approved work experience programs are covered by insurance.

APPROVAL OF WORK EXPERIENCE PROGRAMS

All work experience programs must be approved by the Minister through Curriculum Development, Department of Education, in accordance with procedures established for introduction of new school programs.

To be accepted, the following conditions must be met:

1. Students eligible for the program must be at least 16 years of age and mature enough to benefit from work experience and they should have had a career education program in preparation for the experience.
2. Written parental permission must be obtained prior to any involvement in work experience.
3. Provision must be made for adequate supervision and evaluation of the work experience activity. School boards must select staff to meet with co-operating employers and make regular visits, evaluations, and reports.
4. Arrangements for insurance must have been completed.

Applications for approval of work experience programs should be made by the superintendent of schools through the inspector of schools. Completed applications should be submitted through the inspector of schools to Curriculum Development, Department of Education, P.O. Box 578, Halifax, Nova Scotia, B3J 2S9, for approval of the Minister.

TEACHING GUIDE

Work Experience Guidelines, Supplementary Document
No. 17, 1978.

Special Education

Nature of Special Education

Special education programs are designed for students with disabilities of such nature that the disability interferes with the student's ability to learn successfully in a regular classroom. Some of the disabilities which result in handicaps are:

- mental retardation
- emotional or social disorders
- learning disabilities
- physical handicaps and other health related problems
- speech handicaps and/or communication disorders
- sensory handicaps
- multiple handicaps

Educational Programs — Elementary and Secondary Levels

In common with other students, special education students require the knowledge and skills to lead independent and purposeful lives. The general aims of education are appropriate for these students. These students will attain these aims to varying degrees depending on the degree of handicap, the motivation of the student, and the co-operation and communication between school, parents and the community support systems.

Many students who require special education programs and services can have their needs met in regular classrooms. To meet the needs of students with learning problems, alternative teaching methods should be available within the framework of the regular classroom, as far as it is possible and practical to do so. Consideration should be given to using peers, volunteers, or teachers with specialist backgrounds and training and to alternative methods and materials. Special education administrators, education assessors, speech pathologists, and/or resource teachers may be involved to assist the teacher and student in program planning and instruction.

For those students who are not able to cope full time in a regular classroom, alternative arrangements may be required. These include regular class placement with special equipment or materials, supplementary instructional services using specially trained teachers in a resource room, part-time placement in a special class and part-time in a regular class, or special class placement for most or all of the school day. **No child may be placed in a special class or program without the consent of the parents or guardians.** Recommendations for special programs, accommodation options, and the parents' opinions should be discussed and recorded on the student's cumulative record file.

It is important for handicapped students to learn about the expectations of a non-handicapped society and for non-handicapped students to learn about and respect the handicapped. To achieve these goals, teachers and principals should select and arrange opportunities to integrate handicapped students with other students. This is particularly important to those who spend a large portion of

their day in special classes. It is also important that students attend schools appropriate to their age group.

When the school system considers placement of a student in a special class the following must be undertaken:

- (a) an individual diagnostic, psychological and/or educational assessment. Medical anomalies that will influence the student's learning should be considered.
- (b) a case conference to review the reasons why placement is recommended and to assign responsibilities to individuals who will be involved in the development and implementation of the program.
- (c) a detailed individual program which is developed for each child.

Formal reassessments shall be done every two years, or more frequently if required, for as long as students remain in a special class. Particular attention should be given to ongoing, detailed recordkeeping.

Students who have completed a personalized special education program and who are in their last year of public school, may receive a provincial certificate which recognizes their particular achievements. Special education supervisors will notify the inspector of schools through the superintendent of the number of certificates required each year.

A few severely learning disabled students qualify and may be accommodated in a residential school. Applications for financing such residential placements should be initiated by the school district. Criteria for selecting students and procedures for processing applications are noted on the application form which may be obtained from the Atlantic Provinces Special Education Authority, P.O. Box 578, Halifax, Nova Scotia, B3J 2S9.

Under the Handicapped Persons Education Act, the responsibility for identifying sensory impaired handicapped students remains with the parents, who must notify the superintendent of schools. It is also expected that superintendents will report to the inspector, as promptly as possible, the names of children who are in need of special instruction in public school because of defective sight or hearing or other physical or mental condition.

The superintendent will arrange for an educational assessment of the student and will notify the Atlantic Provinces Special Education Authority. For practical reasons, notification should go directly to the appropriate Resource Centre: the Atlantic Provinces Resource Centre for the Visually Impaired (The Sir Frederick Fraser School), 5940 South Street, Halifax, Nova Scotia, B3H 1S6 or the Atlantic Provinces Resource Centre for the Hearing Handicapped, P.O. Box 308, Amherst, Nova Scotia, B4H 3Z6.

Other pupils with less serious sensory handicaps may be identified in the public school and some services may be available to them and their teachers from the Resource Centres for the hearing handicapped and the visually impaired. It is suggested that the Resource Centre staff be involved in the assessment of such children.

Teaching Guides

Special Education Curriculum Guide for Teachers of Trainable Mentally Handicapped Students (No. 45, 1979)

Special Education Curriculum Guide for Teachers of Educable Mentally Handicapped Students Ages 5-21 (No. 60, 1980)

Supplementary Materials

Administrative Handbook, Special Education, Document 24, 1980

Learning Disabilities Handbook, Document No. 34, 1981
Speech and Language Service, A Special Education Handbook, Document No. 28, 1983.

Administrative Handbook, Special Education Resource Programs, Supplementary Document No. 50, 1984

Physical Education for Children with Special Needs, Grades Primary-12 (No. 100, 1987)

Special Programs In-Service Kits.

Pilot Courses or Programs

Approval is required for the offering of a program or course not included in the authorized programs named in this document, and for the use of textbooks and related teaching materials not included in the authorized list.

Application forms are available from the inspector of schools and must be returned to him/her for transmission to the Curriculum Division by February 15 in any year together with the following:

1. a summary of the proposed changes indicating course and level and accompanied by the rationale and objectives of the proposed course;
2. an outline of the content of the course, together with a list of student and teacher materials, including exact titles and editions, publisher's name and address, and list prices;
3. information related to any costs which are not included in the portion of the credit allocation available for materials for locally initiated courses;
4. an indication that qualified teaching staff will be available to teach the course(s) if special qualifications are necessary;
5. provision for future development. (This is particularly important in courses where the sequential nature of the program requires ongoing development in future years.)

Approved pilots will be monitored and evaluated by the local school district and consultants from the Department of

Education over a two-year period. A pilot designation will not extend beyond two years and may be terminated at any time. After two years, the pilot may (a) become a locally approved course, or (b) be terminated.

Credit Allocation System for Learning Materials Available to Schools Through the Nova Scotia School Book Bureau

The total amount of credit allotted to each board is calculated on the basis of the previous September enrolments, and is intended to ensure maintenance of an adequate supply of the materials already in use in the schools, and to enable schools to acquire selected or required newly-listed materials, including educational software.

The credit allocation is used for authorized materials for prescribed and approved programs in each school; repair of textbooks; and to obtain materials for supervisory personnel, staff study, in-service, preview of new materials and other special purposes within guidelines available from the Nova Scotia School Book Bureau.

There will be no carry-over of credit or charges from one year to the next, as all unused credit expires in March. The total cost of items must not exceed the board's credit allocation. While the School Book Bureau maintains accurate accounts for each board, it is the responsibility of each board to ensure this credit is not exceeded.

An amount not exceeding ten percent of the credit allocation may be used for ordering through Curriculum Development materials which are not on the School Book Bureau lists. Part or all of the ten percent may be used for materials for approved locally-initiated pilots or to meet the needs of a small group of students. Provision is also made within the ten percent credit allocation to provide, throughout the year, examination copies of materials not contained on the list. If approved by the Curriculum Division, the materials will be ordered by the Department. *Schools should not order materials directly.* A special order form is available from the inspector of schools.

Details on ordering instructional materials are provided by the Nova Scotia School Book Bureau, 3 Moore Road, Burnside Industrial Park, Dartmouth, Nova Scotia, B3J 3B7.

Program and Course Descriptions



Programs and course descriptions within each program are listed in alphabetical order and ascending order of grade from primary to grade 12.

Reference should be made to *lists of authorized instructional materials, of various levels and for various special uses*, that are available through the School Book Bureau within the credit allocation system. In authorizing materials for this list, first consideration has been given to materials written and published by Canadians. In general, consideration must then be given to Canadian materials using the following definition:

A book is considered to be Canadian if it is:

- a) written, designed or produced by a Canadian, or is
- b) about Canada or presents a Canadian perspective or is designed to meet Canadian needs, AND is
- c) published in Canada.

Notwithstanding the above definition, consideration should be given to material which is

- d) edited and/or translated by a Canadian
- e) manufactured in Canada.

Supplementary bulletins and other requested guidance may be provided by Curriculum Development, Department of Education.

Art Education

Teaching Guides

- Art, Primary to Six (No. 20, 1977)
- Art, Grades 7-9 (No. 21, 1977)
- Art, Grades 10-12 (No. 43, 1979)

Supplementary Documents

- Nova Scotia School Television Program Teaching Guide for Art, Levels 2 and 3
- Nova Scotia School Television Program Teaching Guide for Art, Levels 4-6
- Art Primary-3 (Supplementary Document No. 37, 1982)
- Art 4-6 (Supplementary Document No. 40, 1983)

Program and Course Descriptions

Elementary (Primary- Grade 6)

At the primary to grade 3 levels, children should have many opportunities to explore and experiment with the media and techniques of art. In levels 4 through 6, students should be given more specific direction and instruction relating to art skills and techniques. Children should be encouraged to solve problems creatively through activities designed to challenge.

During elementary school years, the program will provide a selection of increasingly complex experiences in various aspects of the visual arts including all of: drawing, painting, printmaking, sculpture, fibre (weaving, stitchery, appliqué, macramé, batik), puppetry, audio-visual, art appreciation, design and group activities such as murals. These experiences will be selected according to the needs and interests of the children and the teachers concerned, and the possibilities arising from the nature of the environment.

Junior High (Grades 7-9)

The art program follows a thematic approach to give structure and order to the various skills, techniques and processes that are an integral part of any art curriculum. The program has been divided into four major concept areas: self, social interaction, environment, and cultural heritage. Through this approach, teachers and students can develop a distinctive, yet inter-related understanding and awareness of the value of art in our daily lives.

The program developed by the teachers should encompass each of the four concept areas at each grade level. A sequential and developmental approach to the exploration of media skills and techniques should be considered when the teacher is planning the total junior high art program.

The art media that may be incorporated into the 7-9 art program are: drawing, painting, printmaking, photography, ceramics, textiles, sculpture and architecture. The various media should be explored through the four concept areas depending on the facilities of the school, the interests of the students, and the experience of the teacher.

Senior High (Grades 10-12)

GENERAL NOTE

The aims of the high school art program include the development of visual perception and awareness, skill and confidence in artistic endeavors, skill in using art materials and in solving problems in the visual arts, and developing an understanding of art, including the ability to analyse and interpret art history.

ART 321 (ART 321)

The first year high school art course should concentrate on the development of basic art skills and an understanding of the core content of drawing and design, painting, sculpture, printmaking, art history and no more than two optional units from mixed media, pottery, photography, crafts, fibre/textiles. Drawing/design and art history should relate

to every aspect of the year's work because they are basic to the development of concepts and future studies in art.

ART 331 (ART 331)

At this level the concentration on drawing/design and art history should be continued with further development of skill and ability in the other core components of painting, printmaking and sculpture. Increased time is suggested for the optional units to enable students to acquire greater understanding of the process.

ART 341 (ART 341)

At this level the student should have the opportunity to work in depth in selected areas of the program. Specialization should be encouraged. Drawing/design and art history are the two specified components with *one* additional chosen from painting, printmaking and sculpture, and *one* from the optional list.

Business Education

Teaching Guides

Accounting (No. 54, 1980)
Business Communications (No. 66, 1980)
Business Mathematics (No. 88, 1984)
Business Organization and Management (No. 62, 1980)
Consumer Education (No. 25, 1977)
Law (No. 10, 1978)
Office Procedures (No. 55, 1980)
Recordkeeping (No. 56, 1980)
Shorthand and Transcription (No. 57, 1980)
Typewriting (No. 58, 1980)
Introduction to Word Processing (Supplementary Document No. 46, 1983)
Data Processing (Draft Outline 1984)

There are two phases of business education: individual business courses and business sequences. Each has a definite purpose and each may play an important part in the achievement of the general aims of education. Individual business courses are designed to contribute to basic education for all students, regardless of career plans, and business sequences are intended to prepare students for business and office occupations.

As part of the High School Completion Program, schools which have business education departments may offer *accounting*, *clerical* and *stenography* sequences.

The Accounting Sequence is designed to prepare students for employment in accounting and related business occupations. Instruction is intended to develop a basic understanding of modern accounting procedures applicable to single proprietorships, partnerships, and corporations.

The Clerical Sequence is designed to prepare students for employment as clerk-typists, general office clerks, file clerks, office machine operators, receptionists, and other related occupations. Instruction includes typewriting, machine operation, record-keeping, filing, clerical routines, and business techniques.

The Stenographic Sequence is designed to prepare students for employment in office occupations which require stenographic skills. In addition to developing typewriting, shorthand, and transcription abilities, students will have an opportunity to develop skills in machine operation, filing and business techniques.

Generally these sequences should include the following:

Accounting Sequence

English	421 or 221	431 or 231	
Business Communications (English)			BUE 241
Mathematics	421, 221 or 321	BMA 231	
*Typewriting			
Accounting		331	341
Law			341
*Office Procedures	241		

Seven optional subjects from the High School Completion Program.

Clerical Sequence

English	421 or 221	431 or 231	
Business Communications (English)			BUE 241
Mathematics	421, 221 or 321	BMA 231	
*Typewriting		231	241
Consumer Education	321		
Record Keeping or Accounting	221	331	
*Office Procedures			241

Six additional subjects from the High School Completion Program. Care should be taken that students include a course which fulfils the Canadian studies requirement.

Stenography Sequence

English	421 or 221	431 or 231	
Business Communication (English)			BUE 241
*Typewriting	321	231	241
*Shorthand		231	
*Shorthand Transcription			241
*Office Procedures			241
Accounting		331	

Six additional subjects from the High School Completion Program. Care should be taken that students include a course which fulfils the Canadian Studies requirement.

*Rooms with typewriters (and in Office Procedures, business machines as well) must be available.

Senior High
(Grades 10-12)

Program and Course Descriptions

ACCOUNTING 331 (ACC 331)

The aims of the high school accounting courses are: (1) to develop an understanding of accounting principles and concepts encountered in business and personal activities; (2) to provide a sound foundation for additional study; (3) to become acquainted with the principles, applications, and importance of data processing in accounting procedures.

The following topics are covered in the introductory course: the accounting equation, analysis of business transactions, journalizing and posting, processing cash receipts and payments, financial statements, and the complete accounting cycle for a merchandising firm.

ACCOUNTING 341 (ACC 341)

Prerequisite: Accounting 331

The advanced course in accounting deals with more complex transactions and financial statements. Topics include: automated accounting systems, payroll accounting, cost accounting, budget accounting, taxation accounting, partnership accounting, corporation accounting, financial statement reporting, and analysis of corporate financial reports.

BUSINESS COMMUNICATIONS (ENGLISH) 241 (BUE 241)

This course meets the requirements for a third-level English credit.

Effective reading, listening, speaking and writing skills are developed including the fundamentals of English usage. The course includes the composition of a variety of business letters, memoranda, telegrams, and current trends in business communication. Appropriate word processing skills may be advanced in this course.

BUSINESS ORGANIZATION AND MANAGEMENT 341 (BOM 341)

This course includes the structure of Canadian businesses, principles of management, the functions of marketing, personnel, production, advertising and finance as well as an overview of current trends in Canadian business management. It presents an overview of the different facets of business organizations in Canada in a managerial context. Emphasis is placed on questions, projects and the case study approach. Field trips and simulated management situations are an important part of the course. Students are provided with some indication of the types of environment within which those in managerial positions must operate. Business organization and management is considered a Canadian studies course for the purpose of satisfying the compulsory Canadian studies requirement for a High School Completion Certificate.

CONSUMER EDUCATION 321 (CED 321)

This course introduces the student to the problems of today's consumer citizen. Course content includes: sources of consumer protection, advertising and the consumer, principles of good buying, investing in housing, money management, savings and investments.

DATA PROCESSING 341 (DAP 341)

Approximately 80 percent of all computer use falls within the realm of large and small scale business. This course in computer data processing provides an introduction to the challenging, ever-expanding world of business computing.

Designed to be taught with the use of microcomputers, the course addresses the three main activities of business data processing: capturing the input data, manipulating the data, and managing the output. Specific topics include the data processing cycle, hardware and software, business records management and electronic communications.

"Hands-on" practice time will be provided for business applications related to the following areas: accounting, professional word processing, database management, and financial spreadsheet programs.

Students may receive a brief introduction to programming.

This course is recommended for any student who would find a course that provides an insight into business and financial computing of value and interest as part of his or her high school completion program.

LAW 341 (LAW 341)

The Canadian law course is designed to provide students with: (1) a knowledge of law and its function in society, and (2) skills and attitudes that will enable students to understand the process of law. Course contents include the Canadian legal system, crimes and crime control, injuries and wrongs, human rights, property rights, promises and agreements, business relations, family relations, courts and trials. The course may be considered as belonging to either business education or social studies, and should be taught by the person best qualified to teach, and interested in teaching, about law. Law 341 is considered a Canadian studies course for the purpose of satisfying the compulsory Canadian studies requirement for a High School Completion Certificate.

BUSINESS MATHEMATICS 231 (BMA 231)

The business mathematics course is designed to reinforce basic mathematical concepts and skills by providing students with experience in applying them to typical business situations. The course has been changed from the grade 10 level to grade 11. With this change in placement has come a revision that has been designed to complement both the changing demands of business and revisions made to other math courses, particularly MAT 221. It is recommended that students have a 10-level math credit from the previous year.

Beginning with a review of fundamentals, the course emphasizes a problem solving approach to such topics as budgeting, financial planning, banking and credit, employee compensation, merchandising transactions, investments, business report analysis, and managerial mathematics. The efficient use of the calculator and, where possible, the computer as computational tools should be emphasized in this course.

OFFICE PROCEDURES 241 (OFP 241)

Office Procedures is a laboratory course which identifies the varied activities of a business office. Its objective is to prepare students for office employment by developing integrated office skills to business and vocational use levels.

Course content includes: office organization, human relations, communications (personal, telephone, mail, telecommunications), filing, office machines, machine dictation and transcription, data processing, word processing — both concepts and applications, and job preparation. A field placement in an actual office is recommended.

RECORDKEEPING 221 (REC 221)

The course is designed for students who want skills and knowledge of the common business forms for personal use or for clerical activities in which basic records are kept.

It will enable the student to set up and keep simple records for personal use, family use, a social club, or a very small business. Areas of study include: personal record keeping, record keeping procedures, business record keeping, and the basic elements of accounting.

SHORTHAND 231 (SHD 231)

The primary aim of the shorthand and transcription courses is to develop the ability to take dictation and produce readable transcripts with sufficient speed and accuracy to meet office standards.

Regardless of the shorthand system taught, transcription begins early in the introductory course in order that the students may be able to transcribe accurately and quickly shorthand notes that have been written at the *minimum* rate of 60 words a minute. Students should be able to transcribe the dictation at a minimum rate of 10 words a minute with 95 percent accuracy.

SHORTHAND TRANSCRIPTION 241 (SHD 241)

Prerequisite: Shorthand 231

This is an advanced course with emphasis on transcription skills and good work habits. The objectives are as follows: (1) ability to take dictation from new material at rates varying from 90 to 120 words a minute, graded on the basis of readability; (2) ability to transcribe at speeds from 15 to 25 words a minute; (3) ability to proofread with absolute accuracy.

INTRODUCTORY TYPEWRITING 321 (TYP 321)

The introductory course in typewriting is designed to introduce the student to the touch typewriting method with particular emphasis on correct techniques. It is an open elective to all students — business and non-business — and is not vocationally oriented in itself. In addition to covering the complete keyboard, the course includes drills on sentences, paragraphs, centring, tabulation, manuscripts, letters, and composition at the typewriter. This introductory typewriting general interest course may also be taken at the grade 11 or 12 levels in which case it should be designated Introductory Typewriting 331.

A prerequisite of a passing grade of 50 percent or better in TYP 321 AND a minimum average of 35 to 40 wpm with five or fewer errors on at least three, five-minute timed writings with a normal syllabic intensity is required for admission to the intermediate level of typewriting.

INTERMEDIATE TYPEWRITING 231 (TYP 231)

Prerequisite: Typewriting 321 (including speed requirement)

The aim of the second course in typewriting is to provide the student with the opportunity to acquire an intermediate level vocational skill. The student will (1) demonstrate a refinement and development of the technique of typewriting and knowledge of machine operations; (2) demonstrate good quality production and efficient work habits in vocational typewriting; (3) produce typewritten material with acceptable standards of speed and accuracy for the intermediate level. This typewriting course may be used to help students acquire skills in word processing.

A prerequisite of a passing grade of 50 percent or better in TYP 231 AND a minimum average of 45 to 50 wpm with five or fewer errors on at least three five-minute timed writings with a normal syllabic intensity is required for admission to the advanced level of typewriting.

ADVANCED TYPEWRITING 241 (TYP 241)

Prerequisite: Typewriting 231 (including speed requirement)

The aim of the third course in typewriting is to provide the opportunity for all students to gain an entry-level marketable skill prior to leaving high school. The development of a competency in the production of mailable typescript in accordance with the standards and expectations of industry is a priority. The teaching of word processing skills may be introduced or further advanced in this level of typewriting.

A passing grade of 50 percent or better AND a minimum average of 55 to 60 wpm with five or fewer errors on at least three five-minute timed writings with a normal syllabic intensity would be required for credit purposes.

Special One-Year Business Education Program

NOTE: Students must have accumulated a minimum of ten high school credits prior to enrolling in the special one-year business education program.

In addition to the business courses available in the High School Completion Program, special accounting, clerical and stenography courses may be offered to high school graduates or students who have completed a minimum of ten high school credits. These courses are vocational in nature and they are designed to prepare students for immediate employment.

Subjects	Accounting Sequence	Clerical Sequence	Stenography Sequence
Accounting	331 and 341	331	331
English-Communications	BUE 241	BUE 241	BUE 241
*Office Procedures	241	241	241
Mathematics	BMA 231	—	—
*Typewriting	—	321 and 231 or 231 and 241 (double period)	321 and 231 or 231 and 241 (double period)
*Shorthand	—	—	231 and 241 (double period)

* Rooms with typewriters (and in Office Procedures, business machines as well) must be available.

Electives: In both the accounting and clerical sequences one additional optional subject is to be selected.

In the special one-year business education program, those subjects which are programmed on a two-periods-a-day basis may receive up to two credits as follows:

Subject	Course	Credits
Accounting	1-Yr. Accounting	Accounting 331 and 341
Shorthand	1-Yr. Stenography	Shorthand 231 and 241
Typewriting	1-Yr. Clerical	Typewriting 321 and 231 OR 231 and 241
	1-Yr. Stenography	Typewriting 321 and 231 OR 231 and 241

Credits in the above areas will be given only if the student has not already received credit for previously completing any of these subject areas.

Sometimes a student does not meet the standards required for successful completion of these subjects. If this occurs when these subjects are programmed on a two-periods-a-day basis, a student will, more often than not, have completed more than enough work to have met the requirements for a passing grade in the elementary levels of these subject areas. Credit would then be awarded as follows:

Subject	Course	Credit
Accounting	1-Yr. Accounting	Accounting 331
Shorthand	1-Yr. Stenography	Shorthand 231
Typewriting	1-Yr. Clerical	Typewriting 321 or 231
	1-Yr. Stenography	Typewriting 321 or 231

Credit in these areas will only be given if the student has met the required standards for the elementary level in the subject area and has not already received credit for previously completing any of these subject areas.

Career Education

CREATING A CAREER 331 (CAC 331)

Creating a Career is designed to help students acquire knowledge and skills in occupational exploration, career decision-making, and job search.

In the Career Planning section of the course, students will learn to identify their own strengths, interests and aptitudes. They will explore a wide variety of occupations in relation to their personal preferences and to the implications for further training and education.

The Job Search section concentrates on "job seeking" and "job keeping" skills. Students will develop decision-making skills and learn how to write résumés and prepare for an interview.

Computer Education

Teaching Guides

Guidelines for Using the Microcomputer in the Elementary School (No. 104, 1987)

Computer Education in the Junior High School (No. 105, 1987)

Computer Related Studies, CRS 331 and CRS 441 (No. 106, 1987)

Elementary (Primary-Grade 6)

Students at the elementary level should have access to the computer as a tool for written expression, for illustrating and for developing thinking. It is not intended that a separate computer unit or course be offered at the elementary level. Rather, a computer should be among the tools available to a learner to be used when appropriate.

Guidelines for Using the Microcomputer in the Elementary Schools contains a number of scenarios which describe learning/teaching situations with elementary children in which a microcomputer was used to enhance learning.

Junior High (Grades 7-9)

Learners in the junior high years should begin to formalize their experiences and understanding of microcomputer technologies. Students should:

- become confident and knowledgeable users of a microcomputer and its components;
- continue to develop the ability to use a microcomputer for written communication;
- begin to use the microcomputer to store, retrieve, and manipulate information;
- begin to develop an informed awareness of the issues surrounding the evolving technologies.

Computer education is not a subject area like mathematics or science or language arts. Rather, it is a collection of skills, attitudes, and knowledge that together should enhance the learning and teaching of the full curriculum. It is recommended that, if students have not been introduced to using a word-processing program in elementary school, they receive instruction in grade 7. Reinforcement of the early experiences and extensions of these experiences could take place in grade 8. By grade 9, students should be able to produce written work using the available word-processing programs. It is recommended that students be introduced to the use of a database system using curriculum-based data and information. This instruction should take place before the end of grade 8.

Senior High (Grades 10-12)

It is not expected that students will include both CRS 331 and 441 in their senior high school course selection. For that reason, some objectives of both courses are identical. Nor is it expected that all students will select CRS as a course option.

CRS 331 is an open course designed for students who have a particular aptitude and/or interest in the study of computers. The major focus is on developing the ability to use applications software to solve real world problems. Little emphasis will be given to developing the ability to program a computer.

CRS 441 is a university preparatory course designed for students with a particular aptitude and interest in the study of computers. The focus is on developing the ability to solve real world problems through the design and implementation of a student's own program or through the use of available applications programs.

OBJECTIVES OF BOTH CRS 331 AND 441

- To develop comfortable familiarity with a microcomputer through hands-on experiences;
- To solve problems using computers;
- To identify employment opportunities related to computers; and
- To understand legal aspects of computer use including copyright; privacy, and software piracy.

CRS 331 OBJECTIVES

- To develop *facility* with a personal word processing type of software;
- To develop *facility* with a database management type of software;
- To develop an *awareness* of the nature of electronic communications;
- To develop an *awareness* of the nature of electronic spreadsheets;
- To be introduced to one computer programming language; and
- To investigate the impact of computers in society.

CRS 441 OBJECTIVES

- To experience an *overview* of a personal word processing type of software;
- To experience an *overview* of a database management type of software;
- To study *in detail* the components of computer systems;
- To experience an *overview* of an electronic spreadsheet type of software; and
- To develop *facility* with structured programming using one computer language

Driver Education

This non-credit course must consist of three parts: a classroom phase, a behind-the-wheel phase, and an in-car observation phase. The classroom phase shall consist of a minimum of 30 hours. The "behind-the-wheel" phase shall consist of eight hours for automatic transmission or ten hours for standard transmission. The "in-car" observation phase must be a minimum of 12 hours.

N.B. It is suggested that students should be encouraged to wait until the behind-the-wheel phase (minimum of eight hours) has been completed before applying for the provincial driving test.

English Language Arts

Teaching Guides

Language Arts in the Elementary School (No. 86, 1986)

Drama in the Elementary School (No. 2, 1972)

Manuscript and Cursive Writing in the Elementary School (No. 11, 1971)

Learning About Language in the Elementary School (No. 36, 1978)

Literature in the Elementary School (No. 24, 1978)

Let's Plan for Oral Language Development in the Elementary School (No. 24, 1977)

Let's Plan for Improved Listening in the Elementary School
(No. 23, 1978)
Writing in the Elementary School (No. 29, 1979)
Spelling 2 to 8 (No. 26, 1978)
English Language Arts 7-12 (No. 79, 1983)
The Novel in Junior High School (No. 7, 1974)
Media, An Outline for Study (No. 3, 1971)
A Guide to English Language Study (No. 5, 1972)
Reading Across the Curriculum 7 to 9 (No. 29, 1978)
Language and Learning Across the Curriculum (No. 26,
1980)
Notes and Suggestions for Teachers of High School English
(No. 13, 1969)
The Novel in Senior High School (No. 3, 1969)
Developmental Drama/Theatre Arts (No. 5, 1977)
Guidelines For The Teaching of Canadian Literature
(English 442) (No. 78, 1982)
Adjusted Program (Academic), English Language Arts
(No. 65, 1980)
ETV Guide for English Language Arts, The Story Machine,
Levels P, 1, 2
ETV Guide for English Language Arts, Levels 4, 5, 6

Program and Course Descriptions

Elementary (Primary- Grade 6)

Language plays a vital role in shaping individual growth, as well as in developing patterns of thought and social interaction. The language arts program has an activity-centred communications emphasis to meet the individual and developing language needs and interests of children. Since language growth depends on language use, the program provides for a wide range of experiences involving children in meaningful, practical and creative uses of language.

It is the aim of the language arts program at all levels to develop the four aspects of language (speaking, listening, writing and reading) so that children may learn to communicate effectively with both peers and adults. Effective communication is the key to human understanding in all areas. Therefore, there is a reciprocal relationship between language arts and the other components of the curriculum. Learning in these areas is dependent upon effective communication. At the same time, learning to communicate is facilitated by dealing with interesting topics and information from other areas of the curriculum. Always, the focus is on meaning.

The aim of the language arts program is to help children become effective users of language for communication, learning and enjoyment.

The objectives of the language arts program are:

1. To ensure that communication of meaning remains central to all language arts activities.
2. To provide an environment in which learners can come to value literacy.

3. To provide an environment in which learners feel free to take risks as they use language to attempt to make sense of the world.
4. To ensure that use of language for a variety of real purposes has a central place in the language arts program.
5. To provide opportunities for students to use language skills and knowledge for learning about topics which are useful or interesting to them.
6. To develop students' abilities to select and use the appropriate set of language conventions for particular situations.
7. To encourage students to review and reflect upon how they use language.

Through speaking, listening, reading and writing, children develop their ability to refine their thinking and build their understanding of the world. Acceptance of children's language is crucial to their self-image. Negative criticism does not play a useful part in developing children's language; rather, the adult's role is to provide feedback focussing on the meaning of the children's communication.

The language processes are interrelated and interdependent. In planning the language arts program, it is important to take advantage of these interrelationships. It is through this understanding that students will become competent, effective language learners.

Everyone interprets new information relative to what he or she already knows. This prior knowledge is essential in making sense of experiences. Learners enter school with different sorts of prior knowledge which will influence their responses to classroom experiences. The teacher should determine what the individual child already knows and should plan learning experiences to build on and expand this prior knowledge.

It is important to create an instructional context that fosters language learning. This context should be similar to the natural learning environment of the home. From experiencing language in many different contexts, children learn how language works. Children should have many opportunities to use language for purposes which are real and important to them.

Growth in language is fostered in a situation which allows social interaction between teacher and students and among students. Such interaction allows students to explore their ideas, to learn from one another, and to connect past experiences with new learning. It is important that learning resources selected from the school library be an integral part of the program to develop reading, viewing and listening interests and abilities of the student.

The principles of the language arts program are large ones encompassing effective speaking, listening, reading and writing and included in these is the use of drama and media. These principles are:

1. The learner's construction of meaning from spoken or written language is central to all learning.
2. The language components are interrelated and interdependent.
3. Language is learned from whole to part. Language is more than a series of words strung together. We understand what a series of words means before we know what the individual words are.
4. Learners come to school with a knowledge of the world and of oral and written language upon which further learning must be based.
5. Children learn language by using language; that is, they learn to read and write from reading, writing, and talking, not from a series of "readiness" activities.
6. Language is a social process which is fostered through social interaction.
7. Excellent language models are essential.
8. Risk taking is essential for learning.
9. The language arts curriculum must be integrated with the other areas of the curriculum.
10. Children need an environment rich in opportunities to use language for a variety of purposes. Children must also have contact with a variety of written materials in many situations.

An effective language arts program is characterized by flexibility and balance. All aspects of the language arts program should receive equal attention in program planning.

Some concerns to be considered in ensuring a flexible and well balanced language program include:

- balanced attention all aspects of language arts;
- appropriate ratio of formal to informal learning;
- adequate attention to oral as well as written activities;
- appropriate ratio of teacher talk to pupil talk;
- opportunities for children to use language to think out loud, to explain, to shape an imaginative idea.

Language is central to all learners and the language arts program is therefore the key to the total elementary school program expectation.

Junior High (Grades 7-9)

The language arts program in junior high school is an extension of the elementary language arts as described on pages 47-49. The focus of the program will continue to be on the essential communication skills of

speaking listening reading writing

and, above all, *thinking*.

Related processes to be developed will include:

observing or viewing presenting dramatizing

Although the aims that follow are related specifically to thinking, listening, speaking, reading, writing, viewing and

valuing, it should be understood that the language arts program is an integrated, balanced language program and that each course must be taught as a whole and not in isolated units.

The aims of the program at this level are to develop the students' ability to use language to:

- think
- listen
- speak
- read
- write
- view effectively
- discriminate

It is expected that most students will learn the basic skills of communication in the elementary grades, and that these skills will be further developed and refined in the junior high school program. Since the students' abilities and experiences are not equal upon entering elementary school, and since each child learns at an individual pace, no completely acceptable standard can be established for all students at any grade level. For this reason, students' strengths and weaknesses must be known and carefully considered when objectives are set.

The junior high school will continue to provide opportunities for experimentation, exploration, expansion, and practice, but will also include opportunities for studying language arts as a formal discipline. It is also essential for students to review and reflect upon how they use language. In the process students learn when and why certain strategies work. They become more flexible learners. Much of the program in grade 7 and in the junior high years that follow will emphasize language skills of a public and social nature. Students should be placed in situations that call for productive uses of language in real communicative and problem solving situations. These skills are not, however, to be viewed in isolation: the teacher must understand that the private, developing, personal world of the student cannot be ignored; that the student's need to grow in sensitivity must be nurtured; it is, therefore, important that students have an opportunity to work with a variety of print materials.

The responsibility for the teaching of reading does not belong solely with elementary teachers. The elementary school lays the foundation for reading, but the strategies needed to achieve maturity in reading must be taught in junior and senior high school. All teachers are encouraged to work with their classes in developing students' reading in their specific subject areas. Students should be helped to acquire the mature reading abilities and study skills needed for critical reading. Students should use textbooks, dictionaries, magazines and newspapers and other resource materials so that they can learn to read diverse materials as intelligently and critically as possible.

Learning to write effectively is a complex process that develops over many years and optimum progress during any period of time requires both guidance and practice. All students in the junior-senior high school need opportunities to expand and refine their writing ability. In planning a writing program, teachers need to consider the nature of the writing process, the skills involved in writing including computer writing skills and the individual interests and needs of the students. Students should be encouraged to use the word processing skills they acquire in the computer awareness units.

Grade 7

At this grade level there is a continuation of concepts introduced in the elementary grades, and concepts and skills necessary to the development of more sophisticated language competence in grades 8 and 9 are introduced.

Although the core of the grade 7 program is an integrated balance of listening, speaking, reading, writing and viewing, the teacher must at this stage recognize the need for a greater emphasis on reading and writing. Appreciably more than half of the time allotted to language arts should be spent on developing fluency in reading and writing. The balance of class time should be available for related activities fundamental to the students' continuing growth in their ability to use and appreciate language.

The grade 7 program should promote growth in the following areas:

Oral Communication — emphasis on articulation, listening to each other, building self-confidence and tolerance of others' ideas; use and appreciation of improvisation and role playing to explore elements of drama;

Reading — emphasis on developing as a mature reader with specific attention to reading in the different subject areas;

Literature — emphasis on the novel, short story, poetry, and non-fiction as literary forms;

Writing — emphasis on development of a wider and more flexible writing vocabulary including knowledge of spelling of conventional words, use of sentences of varying degrees of complexity, matching the kind of language use to purpose and audience, use of the varied compositional forms of language in writing, developing the habit of evaluating one's own writing and diagnosing one's own writing problems, writing announcements for school and community use, writing simple and unrhymed poems;

Language Study — emphasis on nonverbal and oral communication, origins of language, figurative and humorous language, vocabulary development, dialects, word classes and sentence structure, punctuation and capitalization;

Media — increasing the students' awareness of the newspaper and its influence;

Study Skills — locating and becoming familiar with a great variety of sources of information including personal experiences, experiences of others, dictionaries, simple thesauruses, encyclopedias, newspapers, and using titles, subtitles, pictures, and graphs effectively;

Drama — development of each student's personal potential and individual resources; acquisition of an understanding of self and one's relationship to others; constant practice of the students' communication skills.

Grade 8

Grade 8 is a year of consolidation, expansion, and further discovery for the student and the teacher.

The emphasis in grade 8 is on development of the students' ability to communicate and interact more effectively with their peers and with adults.

Group discussion oral, written, and visual presentations are important at this level in the program.

The students must continue to develop those language skills which are essential to continued language growth. At this level, for example, students should be capable of demonstrating considerable ability in correcting spelling, punctuation, usage, and also in revising and improving drafts of their own writing. The percentage of time allocated for reading and writing activities should again be more than half of the total time allotted to language arts.

The grade 8 program should promote growth in the following areas:

Oral Communication — emphasis on organizing ideas, analysing and solving problems, reaching consensus, role of leader, interviews;

Reading — emphasis on reading for pleasure, getting information and reading across the curriculum.

Literature — emphasis on the novel including attention to character, setting, plot; study of a variety of forms of poetry including ballads, limericks, haiku, cinquain; study of nonfiction including biographies, autobiographies, diaries and journals; study of mythology through use of personal and community stories, fairy tales, fables and legends, interpreting aspects of literature through improvised drama;

Writing — emphasis on writing sentences of varying complexity, writing multi-paragraph compositions such as letters and reports, using expressive, transactional and poetic forms of the language, demonstrating ability to use rules of capitalization and punctuation, using standard form of handwriting and accepted forms of spelling, editing own writing to correct errors in usage, syntax, spelling, punctuation and capitalization, gathering and processing information for reports, paraphrases, or other written materials, writing brief reactions to novels;

Language Study — emphasis on nonverbal and oral communication, history of writing, types of communication, (relational, personal, institutional) vocabulary, dialects, word classes, sentence patterns and sentence expansion, structure, punctuation and capitalization;

Media — increasing awareness of magazines and their influences;

Study Skills — discriminating among the purposes of various sources of information including table of contents, bibliographical information, index, appendices, preface, glossary, adjusting reading rate to purpose, making notes of main idea and supporting facts;

Drama — stimulation of the students' sense of inquiry and of their responsibility for their own learning; the utilization of the students' various senses; development of confidence in one's movement and speech; stimulation of self-discipline.

Grade 9

The focus of the grade 9 program is on the understanding and use of the standardized language code, and on more formal communication situations.

The grade 9 program should promote growth in the following areas:

Oral Communication — emphasis on preparation, researching topic, using support material;

Reading and Literature — emphasis on the novel, short story, poetry and non-fiction so that students understand and appreciate the nature and value of these forms; study of mythology through fables, legends, reading of myths and writing of fables and myths; interpreting aspects of literature through improvised drama and more formal presentations;

Writing — emphasis on writing descriptive, narrative and expository paragraphs using varying organizational patterns, completing accurately forms such as business forms, application forms, and tax forms, applying proofreading skills with increasing competency, keeping journals, writing reports and commentaries, summarizing information and writing a variety of responses to books;

Language Study — emphasis on non-verbal and oral communication, review of origins of language and history of language and persuasive language, vocabulary development, dialects (influences on an individual's speech), word classes and sentence structure, clauses and tenses, punctuation and capitalization;

Media — increasing awareness of advertising and its influence;

Study Skills — discriminating among the purposes of specific sources of information; and identifying the biases

**Adjusted Program
English/Language Arts
7-9**

associated with various other sources of information; using bibliographical information, appendices, indexes to reference materials, distinguishing fact from opinion, notetaking, outlining and summarizing;

Drama — creation and appreciation of dramatic art forms and development of positive attitudes towards the arts; learning to understand and interpret the history of artistic endeavor.

The major aims of the adjusted English language arts program are to develop the students' ability to use their communication skills in situations that occur in daily life and to develop in students attitudes of self-confidence in their use of language.

The three-year program should enable students to:

1. develop the communication skills of speaking and listening essential to social activity;
2. develop the ability to express ideas clearly in written form and thus to clarify and organize thinking about a given topic and to use computers for writing;
3. assess their language abilities realistically and thus build upon their strengths;
4. become more thoughtful users of the mass media including print and technological media;
5. develop study skills;
6. prepare themselves for the language demands of further learning.

Suggested topics to be developed during the three-year program include the study of novels, study of magazines, catalogues and newspapers, use of telephone and telephone directory, life skills involved in consumerism, banking and credit services and taxation.

**Senior High
(Grades 10-12)**

The English program at senior high should continue to emphasize the development of the essential processes of communication: speaking, listening, reading, writing, viewing, presenting, dramatizing, and especially thinking. Aims for the senior high student will, however, be more complex, and the students will be expected to develop these skills to a higher level of sophistication and competence. They will also be expected to develop related skills needed to describe, to explain, to argue, to narrate, to perceive accurately, to analyse clearly, to judge, and to select. Appropriate uses of computer writing should be encouraged and opportunities should be provided for students to use computers for writing.

A variety of resources is listed for study in the senior English programs. While different aspects of English will be emphasized at different times and in different classes, it is expected that these aspects can be integrated into a balanced total program. Primary emphasis should always be on the students' need to develop their ability to communicate effectively through language.

The school library and its resources should be an integral part of the English program.

English 421, 431, 441

The objectives of these courses are to help the students improve their ability:

1. to use language in thinking, listening, speaking, reading and writing;
2. to value and enjoy literature;
3. to view critically films, television, and other media.

Senior High English Course Content

ENGLISH 421, 431, 441

These courses will include:

1. The reading and study of novels, short stories, essays, articles and other prose, poetry, and plays. Works ought to be chosen for their quality and appropriateness for the learners at each level, and should include significant literature from the past and present, some of which is Canadian.
2. The practice of the principles of effective writing in a variety of styles for a variety of purposes. The development of competence in language should be learned through purposeful language use, not through the working of formally taught exercises divorced from context. Regular well-planned practice in writing for every student, with the guidance and encouragement of the teacher, is the means by which skill in written English can be developed. With teacher guidance, students learn punctuation, spelling, and effective sentence and paragraph structure through writing and through the study of good writing.
3. The study of the conventions of written language, including the fundamentals of grammar and usage as they relate to writing, conventional spelling, punctuation, and effective sentence and paragraph structure. The depth of study in these areas should be adjusted to the needs and abilities of the students at each level.
4. A variety of methods of evaluation by both the teacher and students. Encouragement and guidance by the teacher will assist each student to reach the best standard of oral and written expression of which that student is capable.
5. Systematic planning of the course for each grade to ensure a logical progression in areas of English which develop from year to year and the avoidance of repetition except for purposeful review and individual remedial work.

The requirements for these courses include the use of some instructional time for some of the following, as selected by the teacher: units on media; the detailed study of a particular literary genre or a current issue or theme; special emphasis on expository or creative writing; student research, independent study, or small group projects on topics of the students' or teacher's choice.

OVERVIEW CHART FOR ENGLISH 421, 431, 441

	421	431	441
Oral Communication	Emphasis on: discriminating between fact and opinion, appreciating differences in various speakers' voices, dialects, messages	Emphasis on: following order in speeches, repetition of ideas, persuasive influences, differences in dialect, developing confidence in giving demonstrations	Emphasis on: ability to evaluate speakers' arguments and value of speakers' ideas and persuasive effect, ability to participate in parliamentary discussion
Reading and Literature	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology
Writing	Making notes of speech heard or passage read Expressing in writing an opinion Writing business and friendly letters Writing in forms such as exposition, narrative, fictional autobiography, paraphrase, precis, résumé Completing various forms Developing a thesis on a given topic related to pieces of literature Writing short play scripts Writing research papers. Editing and proofreading personal writing.		
Language Study	Reviewing parts of speech Reviewing dictionary skills Studying paragraphs —form —function	Vocabulary development Study of synonyms, antonyms, sentence structure, verbals	Review of usage and mechanics Word Study Definitions
Media	Increasing awareness of use of television and its influences	Increasing awareness of the use of radio, records and their influences	Increasing awareness of the use of film and its influences
Study Skills	Review of study skills including outlining, summarizing, interpreting use of references, organizing and planning time use, note taking, setting the purpose for reading and writing		

CANADIAN LITERATURE (CLT 441)

A senior level course in Canadian Literature (CLT 441) may be offered in addition to English 441 for students who wish to take an additional senior English course. English 241 or 441 are the compulsory courses necessary for completion of the senior high program.

The four designs or approaches upon which teachers may build this course to meet student needs — generic, thematic, historical, and individual study — provide plenty of flexibility.

This course also includes units on French literature in translation, Nova Scotia literature, women in Canadian literature, and Native People in Canadian literature.

Students should be helped to understand that Canada has its own complex but distinctive literary tradition.

ENGLISH 221,231,241

It is especially important that these courses be based on the individual needs, interest, and abilities of the students. The program must provide activities that are related to the students' current lives and to the world that they will experience as adults. To be successful, the program must be perceived by the students to be relevant to their needs and interests.

The courses place emphasis upon:

- the affective responses
- the enjoyment of literature and language
- oral communications
- media study
- independent reading
- individual and small group work

These courses are designed for students whose needs differ from those of students enrolled in English 421,431,441. The students in English 221,231,241 are more likely not to pursue academic post-secondary education. Their needs lie in worthwhile endeavors that are not of an academic nature and that will allow them to have successful learning experiences.

Although these students have received exposure to language study during their junior high program, some may remain weak in the basic English language arts skills as measured by their performance on standardized tests, and in their speaking and writing as observed by teachers. These students may tend to lack confidence and competence in speaking within the classroom. Student differences must be a primary consideration in reading instruction. Differentiation of instruction must be geared to student differences, and must rest on continuing diagnosis of students' abilities and instructional needs.

These courses will include:

1. Many opportunities for students to develop fluency in oral language through such experiences as individual presentations, impromptu talks, informal discussions and organized group discussions, interviews with members of the community, discussions related to the students' reading and writing activities, and role playing, in which students can explore the use of language in a variety of common occupational and social situations. Opportunities should be provided for dramatic expression and creative drama based on the students' experiences. These should provide students with motivation for using language effectively in a variety of situations.
2. Practical writing activities in which students attempt to use language for a definite purpose which they perceive as worthwhile — activities such as the writing of friendly and business letters; completion of forms; announcements for newspapers; editorials, minutes of meetings; summaries and precis; commentaries on public events, movies, and television programs.
3. Creative and personal writing activities based on the students' experiences, such as the keeping of a journal of observations, impressions, experiences, and responses to reading, television, radio, tape recordings, records, magazines, and newspapers.
4. The study of literature and language as used in media such as films, television, radio, tape recordings, records, magazines, and newspapers.
5. Activities which lead to discussion of the influence that the media exert on the students' lives, including practical involvement with the production of radio or television programs, and advertising in its various forms.
6. An independent reading program in which individual students select readings related to their own lives and interests.
7. The reading of a variety of literature, with an emphasis on the students' response to the ideas, feelings, characters, and themes of the work itself. Works should be chosen for their quality and appropriateness to the learners at each level, and should include significant literature from the past and present, some of which should be Canadian.
8. The study of the basic principles of the English language.
9. Opportunities to experience literary and cultural activities outside school.

Specific objectives of these courses are to help the students improve their ability:

1. to use language to think, listen, speak, read, and write;
2. to value and enjoy literature and language;
3. to view effectively and with discrimination, drama, film, television, and personal presentations.

OVERVIEW CHART FOR ENGLISH 221, 231,241

	221	231	241
Oral Communication	Emphasis on: discriminating between fact and opinion, appreciating differences in various speakers' voices	Emphasis on: following order in speeches, repetition of ideas, persuasive influences, developing confidence in giving demonstrations	Emphasis on: ability to evaluate speakers' arguments, value of speakers' ideas and persuasive effect
Reading and Literature	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology	Fiction - Novel Short Story Poetry Plays Nonfiction Mythology
Writing	Outlining and writing multi-paragraph compositions for purposes of describing, informing, and persuading Journal and personal writing Written forms such as memoranda, summaries, reports, résumés, expository writing, and argument Commentaries Writing business and friendly letters Completing various forms Demonstrating ability to use rules of capitalization and punctuation, especially through editing own work		
Language Study	Reviewing parts of speech Reviewing dictionary skills Study of paragraphs —form —function	Vocabulary development Study of synonyms, antonyms, sentence structure, verbals	Reviewing usage and mechanics Word Study Definitions
Media	Increasing awareness of use of television and its influences	Increasing awareness of the use of radio, records and their influences	Increasing awareness of the use of film and its influences
Study Skills	Review of selection and evaluation, organization, location of information, following directions, and specialized skills		

DRAMA 321: DEVELOPMENTAL DRAMA (DRA 321)
Developmental Drama is an elective credit course and does not fulfil the mandatory English requirement. It is an introductory course for students interested in drama and theatre arts, designed to develop the physical, emotional and intellectual resources of the individual student, with emphasis on concentration, sense awareness, imagination, physical control and social communication. The course content will include expressive movement, oral interpretation, improvisation and scripted plays. Different teachers will have different strengths and interests according to their backgrounds in drama, and this course permits teachers to give special emphasis to those areas in which they consider themselves most competent. The major focus of the course is on improvised or creative drama, although some attention will be given to introductory aspects of play production.

DRAMA 331: THEATRE ARTS (DRA 331)
Theatre Arts is an elective credit course and does not fulfil the mandatory English requirement. Students will be presented with opportunities to discover principles of theatre through practical experiences in acting and play production. Class study will include the nature of drama, the analysis, interpretation and appreciation of plays (drawn from a range of media and styles), the writing of scenes and the evaluation of productions. Practical activities will include further work in developmental drama and improvisations as well as movement, voice production, the development of roles from scripts and the staging of short scripted scenes. Projects such as play-writing, student-prepared tapes, set designs for a particular play and diagrams for blocking scenes are included in this course.

Health Education

Teaching Guides

Health Education, Growth & Development, Levels P-6
(No. 3, 1977)

Health Education, Growth & Development, Levels 7-9
(No. 19, 1978)

Program and Course Description

The purpose of health education in schools is to foster the growth of knowledge, attitudes, skills and life-long behaviors that will enable the individual to assume responsibility for healthy living and personal well-being.

**Elementary (Primary-
Grade 6)**

To this end, the health program at the elementary level should promote the physical, social and emotional growth and development of the elementary school child, emphasizing the following content areas: developing positive self-concept and feelings, the structure and functions of the human body, relationship of nutrition and good health, personal responsibility toward safety, accepting the consequences of decisions made, developing a respect for family members and understanding that drugs, smoking and alcohol can have serious effects on the child, the family and the community. It is recommended that children receive information to reinforce the view that human sexuality is an integral part of understanding and acceptance of self and others and the knowledge of body changes that accompany approaching adolescence.

At present, the elementary health program is being revised.

**Junior High
(Grades 7-9)**

At the junior high level, the health education program continues the emphasis placed on healthy lifestyles. Through appropriate teaching strategies and relevant student activities, the program should extend growth and development concepts designed to help students to be physically, socially and emotionally healthy. Besides developing positive health attitudes, health education at the junior high level should make students more aware that they must accept personal responsibility for their own good health.

Grade 7

In grade 7, learning activities should promote an understanding of disease and its effects, an awareness of substance abuse including the effects of alcohol on emotions and self-growth, the effects of smoking and a basic understanding of the more commonly used drugs, where they come from and their short- and long-term effects. Also included are the responsibilities associated with babysitting and the effects of environmental pollution on the student's community.

Grade 8

In grade 8, the program should promote development of food habits that will foster a healthy lifestyle. Drug education at this grade level continues the awareness of substance abuse by developing an understanding of how alcohol can affect the whole family; the laws surrounding alcohol use regarding individual and public safety; the effects of smoking on the individual, the family, and the workplace and the peer pressure related to smoking; and how different situations assert different pressures regarding the use/non-use of cannabis and other drugs. How advertising can create pressure on students as consumers and the development of a healthy attitude toward safety are also included.

The health program should enable students to react in a responsible manner in emergency situations and understand the importance of total fitness in order to acquire and maintain optimum health throughout life. Drug education continues to reinforce knowledge of the effects of substance use, misuse, and abuse. Students should be made aware of the effects of alcohol on physical performance, prenatal development and the resulting fetal alcohol syndrome (FAS); the effects of smoking on prenatal development; the effects of cannabis and other drugs on personality changes; and the sources of help for self and others. Students should develop an awareness and appreciation of the services provided in their community by health care personnel and health agencies.

Home Economics

Teaching Guides

Home Economics, A Program Guide (No. 2, 1977)
Home Economics, Exploring Childhood (No. 12, 1978)
Home Economics in Senior High School (No. 18, 1978)
Home Economics, Program Guide on Aging (No. 7, 1978)
Home Economics for Children and Youth With Exceptional Learning and Behavior Characteristics (No. 6, 1977)
Independent Living/The Canadian Family (No. 107, 1988)

General Notes

The central purpose of the home economics program is to improve the quality of life for individuals and families. The program is based on the concepts of *relationships* among individuals, families and environments; *management* of human and non-human resources; and *values*.

These concepts provide the framework around which the topics of the home economics curriculum are organized. Home economics seeks to provide students with a basis for making reasoned and sound judgments and to encourage them to consider their decisions and actions in terms of consequences to self, others, family and society.

Since there are qualitative differences among students according to their maturity, developmental stage, ability level, and learning style, students should be given the opportunity to engage in a variety of learning activities. Teacher will adapt the lesson content and learning to meet the needs of the students. It is possible to enlarge, condense, or combine units to accommodate the demands of the teaching situation.

Junior High (Grades 7-9)

Program and Course Description

NOTE: The junior high school home economics program is undergoing major revisions in light of the implementation of the personal development and relationships program and the offering of co-educational home economics programs in various areas of the province.

Schools may choose to offer the junior high program using the co-educational model. This model is based on the concept that all junior high school students receive instruction in each of the areas of home economics twice over three years.

The three areas of home economics are Family Studies, Clothing and Textiles, and Food and Nutrition.

CLOTHING AND TEXTILES

The units in this section are designed to enable students to acquire knowledge that will assist them in selecting or making and maintaining their clothes.

Units include the following topics: Clothing Basics, Construction, Family Clothing and Repair, Clothing and You, Fabrics for Clothing, Wardrobe Planning, Clothing and the Consumer, Careers in Clothing, Color and Design, Recycling and Redesigning Clothing.

FAMILY STUDIES

The units in this section are designed to complement and enhance the content of the personal development and relationships program. The focus is on the family and its integration with the near and far environments.

Units include the following topics: Learning About Children, Early Childhood Development, Child Care Practicum, Special Family Members, Global Concerns of the Family, Living Space, Family as a Consumer, Family in the Marketplace, You and Your Money.

Although family studies is an integral part of the total home economics program, directed teaching of this aspect of the program is emphasized in one-third of the school year. If the co-educational model is followed, family studies will require one-quarter of the time allotment.

FOODS AND NUTRITION

The units in this section are designed to help students develop an understanding of family food patterns.

Units include the following topics: Nutrition Basics and Management, Family Meals and Snacks, Fast Foods, Enjoying Food With Others, Food Safety, Eating Light, Practical Meal Planning, Kitchen Technology, Diet for Life, Nova Scotia Food Products and Related Industries, Multicultural Food Study, Nutrition for Health at All Ages.

**Senior High
(Grades 10-12)**

NOTE: The senior high school home economics program is undergoing major revisions. Various sections of the proposed draft guidelines are being piloted in September 1988.

It is intended that the following should be elective units. Very few, if any, would require prerequisites. Thus the units could be taught at any high school level, according to the needs of the students and the resources of the school.

Each of these units is one-half or one-third of a year depending on school timetables. It would be possible by joining two or three units in the same area to take a whole year of Foods, Clothing, etc., or it would be possible to do one unit in each of three areas each year.

CHILD DEVELOPMENT

- | | |
|------------|------------------------------|
| Unit One | The Baby |
| Unit Two | The Young Child |
| Unit Three | Special Interest in Children |

NOTE: Unit Three would be for students with an interest in nursery school or special homes for children.

CLOTHING AND TEXTILES

- | | |
|------------|-------------------|
| Unit One | Family Clothing |
| Unit Two | Fashion and Flair |
| Unit Three | Textile Crafts |

FAMILY STUDIES

- | | |
|------------|--|
| Unit One | Personal Development in the Mid-teen Years |
| Unit Two | Relationships Between Man and Woman |
| Unit Three | Adult Living |

FOODS

- | | |
|------------|---|
| Unit One | Family Meals (1) Meat and Other Protein Foods |
| Unit Two | Family Meals (2) Carbohydrates and Fats |
| Unit Three | Foods Supply and Marketing |

HOUSING

- | | |
|------------|--|
| Unit One | Housing as a Social Issue |
| Unit Two | Buying, Building or Renting a Dwelling Place |
| Unit Three | Interior Design and Furnishing |
| Unit Four | Management of a Home |

**INDEPENDENT LIVING/THE CANADIAN FAMILY
(LFS 341)**

This course has been designated by the Minister of Education as one of those that can fulfil the compulsory Canadian studies requirement. Although the course is given a grade 12 credit, it may be taken in grades 11 or 12. No prerequisites are required.

The aims of this program are:

1. To develop an understanding of personal, family, cultural, and economic factors related to lifestyle choices of Canadians.
2. To apply management and decision-making skills to solving significant problems encountered by individuals and families in their daily lives.
3. To develop a sense of caring and responsibility for self, family, and local and global community.
4. To understand the concept of change and how it affects Canadian society, families, and individuals.
5. To develop an awareness of human and non-human resources and skill in their management.
6. To understand the reciprocal relationships between Canadian families and their environments.

The units of study are: Becoming Independent, Images of Families, Family Development, Family Well-Being.

Special Education

Many students in special education classes are able to profit from the regular program based on the teaching guide, *Home Economics for Children and Youth With Exceptional Learning and Behavior Characteristics* (No. 6, 1977).

Industrial Arts

Teaching Guides

Teaching guides are included in an Industrial Arts Education Program Handbook, Teaching Guide No. 49, 1980.

General Woodwork

Level 1, Junior High Grades 7-9

Level 2, Senior High Grades 10-12

General Metals

Level 1, Junior High Grades 7-9

Level 2, Senior High Grades 10-12

Graphic Communications

Level 1, Junior High Grades 7-9

Level 2, Senior High Grades 10-12

Electricity/Electronics

Level 1, Junior High Grades 7-9

Level 2, Senior High Grades 10-12

Power and Energy

Level 1, Junior High Grades 7-9

Level 2, Senior High Grades 10-12

and the following three, individual senior high teaching guides:

Construction Technology (No. 9, 1976)
Communications Technology (No. 12, 1977)
Manufacturing Technology (No. 23, 1977)

Supplementary Documents

Industrial Arts Metric Implementation Guide (No. 6, 1978)
Industrial Arts Resource Book (No. 42, 1983)
Home Technology (No. 43, 1983)
Power Technology (No. 44, 1983)
Industrial Arts Resource Book 2 (No. 53, 1985)
Industrial Arts Resource Book 3 (No. 57, 1988)

General Notes

The industrial arts program is designed to help boys and girls understand, live and work in our modern industrial society. The essential feature of the industrial arts program is modelling, in contrast to notation in science and language in the humanities. This is a feature which has always been characteristic of industrial arts programs that developed the whole personality — the cognitive and the affective aspects as well as the motor skills. Work with materials should form an important element in a design technology approach which emphasizes the whole process of using materials, from preliminary analysis of need through design research to the production, testing and use of the product. This problem solving sequence provides a structured approach with scope for intuitive and imaginative responses on behalf of the learner which can be employed in different situations. The central aim of industrial arts is to give boys and girls confidence in identifying, examining and finally solving problems with the use of materials. The industrial arts program also aims to help girls and boys gain an understanding of the contemporary industrialized society and especially the dynamic interplay between technology and society.

The aims and goals of the program are:

1. to help students develop competence in communications, computation, critical thinking and problem solving;
2. to develop an insight and understanding of industry and technology and their place in our culture;
3. to develop a degree of skill, and hand-eye co-ordination in the safe and proper use of common hand tools, machines, equipment and processes;
4. to develop an understanding of professional, technical, and trade occupations in the industrialized sector of society;
5. to develop an appreciation of and a respect for craftsmanship, good design and sound construction;
6. to develop recreational and avocational activities of a constructive and creative nature.

Mediate objectives of the program are as follows:

1. To help students develop their whole personalities by recognizing the value of designing and modelling as an important area of human knowledge and its relationship with science and the humanities.
2. To develop in students' intellectual problem-solving skills.
3. To help students understand and relate to the rapidly changing technological world.
4. To develop in students an appreciation of good design and a realization of the wise and harmonious use of materials.
5. To develop in students manipulative skills involving a wide range of tools, machines and materials.
6. To have students appreciate the wide range of vocational and avocational activities related to the design technology area of study.

This program is designed to meet the needs of high school students who wish to explore leisure time and avocational interests and pursuits encouraged by this program, as well as those who are planning to pursue advanced study and careers in areas such as applied and technical sciences and industrial vocational education, or who will soon be entering the labor force.

Junior High (Grades 7-9)

LEVEL I — INTRODUCTORY

At this level the handbook does not outline specific courses but rather identifies guidelines, objectives and basic learning for each of the components of the total program, which are as follows:

general woodwork	power and energy
electricity/electronics	general metals
graphic communications	

The precise design of the courses and the decision as to the length and number of courses offered is a school responsibility to be carried out in accordance with local policy and the guidelines outlined in this document.

An introductory industrial arts *program* should provide as broad an experience as possible for the student during his or her junior high school years. *Courses* may be arranged as part or whole year experiences, provided that the students have the opportunity of gaining experience in three or more industrial arts components outlined above during the junior high school years.

Senior High (Grades 10-12)

LEVEL II — EXPLORATORY

The organization of the total program at this level follows naturally from that at the introductory level. The handbook identifies guidelines, objectives and basic learning outcomes for the component parts of the program but again the specific development of individual courses based on these guidelines is the responsibility of the school operating in accordance with local policies. The following are the components of the industrial arts program at this level:

1. General Woodwork
2. General Metals
3. Graphic Communications
4. Electricity/Electronics
5. Power and Energy
6. Manufacturing Technology
7. Construction Technology
8. Home Technology
9. Communications Technology

The main intent of the industrial arts program should be to provide as broad an experience as possible to the student during his or her senior high school years.

SAFETY

Safety is a major concern in any subject which includes "hands on" experiences and activities. Special emphasis is to be given to the third goal of the industrial arts program: to develop in students a degree of skill and hand-eye coordination in the *safe* and proper use of common hand tools, machines, equipment and processes.

It cannot be sufficiently emphasized that safety should represent a primary aim of every industrial arts course.

Student Practical Activities and Projects

The practical activity or project is the motivator, the means through which the student can plan, solve problems, develop manipulative skills, come to understand craftsmanship and industry and what actually goes into the making of something, the vocabulary used to describe it and the measuring and mathematical skills needed to construct it.

Courses of study in industrial arts should be developed around a nucleus of selected projects and practical activities; however, enough choice should be provided to permit the students to change the design or substitute a parallel project as long as the alternative covers the required topics.

Besides being involved in the production of individual projects, students can work in groups to mass produce projects, in a way similar to that by which products are mass produced in industry. Many of the subject areas of the industrial arts program lend themselves to this approach and besides giving students the experience of working in groups it also provides them with a realistic insight into modern industry. In some instances a small company could be formed to produce products in quantity (see the Manufacturing Technology course).

Polymers and other artificial materials are used extensively in industry and society in general. In some instances they have completely replaced traditional wood and metal materials and in other cases they are used successfully in combination with wood and metal materials. Since many of these materials can be worked using techniques similar to those developed in the woodwork and metalwork courses, there should be

Program and Course Descriptions

ample opportunity for teachers to introduce materials into the content of the courses in these subject areas. Where the teacher has the experience, and materials and equipment are available, introductory and exploratory work with these materials should be considered as an integral part of the course content, especially in relation to the practical activities and projects produced by the students.

Design problems may be solved totally in plastic materials or may take the form of a component part of a design solution in another material area. The problem must be broken down into manageable parts and tentative ideas must be explored to help clarify thinking as more and more information is gathered and as a methodical mode of working is adopted which allows for personal and intuitive responses to take place.

GENERAL WOODWORKING

Level 1, Junior High School

Level 2, Senior High School

This area of study provides students with a series of introductory and exploratory activities in the proper use and care of woodworking hand tools and machines. The content provides a variety of experiences in fabrication, and in assembly and finishing of wood.

Students apply their knowledge and skills by designing and producing a variety of wood projects. On the whole, this course is a reflection of a large and important segment of Canadian industry and is one which offers great potential for design, craftsmanship and experimentation with materials. Provision is also made at Level 2 to offer students exploratory work in woodcrafts and wood construction.

GENERAL METALS

Level 1, Junior High School

Level 2, Senior High School

This area of study provides students with a series of introductory and exploratory activities in sheet metal, art metal, forging, casting, metal machining, heat treating, enamelling, etching and finishing. Experience is also gained in assembly methods such as soldering, riveting, use of threaded fasteners, resistance, gas and arc welding. Students are expected to apply and display the knowledge and skill gained by designing and producing a variety of metal projects. These projects should be created with two aims in mind — to give experience and practice in the basic processes, and to present activities which should be worthwhile and interesting to the student.

GRAPHIC COMMUNICATIONS

Level 1, Junior High School

Level 2, Senior High School

This area of study provides students with an introduction to graphic communications through a variety of exploratory experiences and activities in blueprint reading, sketching, design and graphic arts. The theory and technology of the course should be applied through related experiences and development of practical projects. The course material of this

component should be related continually to the other components of the industrial arts program.

POWER AND ENERGY

Level 1, Junior High School

Level 2, Senior High School

It is the purpose of this area of study to provide students with a knowledge of the development and working principles of the common mechanical equipment used to produce power.

Particular emphasis should be given to the mechanical equipment with which the students are familiar or with which they will come into close contact; e.g., bicycles, model and miniature engines, motorcycles, snowmobiles, outboard engines, lawn mowers, power saws, etc. At the senior high school level there is provision to offer students exploratory work in relation to alternative, as well as principal, energy sources.

ELECTRICITY/ELECTRONICS

Level 1, Junior High School

Level 2, Senior High School

This area of study provides students with learning experiences which will help them understand the industrial and technical applications of electricity. Students are introduced to and have the opportunity to explore the working principles of the electrical devices they will use as consumers, both at home and in future occupations.

The course should use an approach which will include these main phases: (1) instruction and demonstration; (2) student experimentation; and (3) student activities. Besides experimenting with electric components students should construct useful and operating devices, utilizing the basic manipulative skills involved in working with electricity. Selected projects or activities should reflect modern technology and the student's experience of it. There is also opportunity at the senior high level to offer students exploratory work in electronics which will provide a meaningful introduction to the Communications Technology course.

COMMUNICATIONS TECHNOLOGY

The aim of this study is to improve the students' ability to communicate ideas by familiarizing them with the nature of communication processes and the techniques of converting ideas into symbols, words, picture and sound. This is achieved by study of the graphic/electronic communication industry and related laboratory experiences. This course may be offered in senior high school.

Content: Modern communication; microwave, radar, laser, graphic communication; telegraph; telephone; radio; light writing; photochemical; electrostatic, paper and ink, screen processes, stencils; storage and retrieval; computer, microfilm, microfiche, universal eye; television; sound track; disc recording; magnetic tape.

This course involves field and other research and many opportunities for integration with other subject areas.

CONSTRUCTION TECHNOLOGY

The aim of this study is to give students a knowledge and understanding of construction technology through work on both practical construction, including modules or models, and also a variety of written, research and report projects related to construction technology. It may be offered in senior high school.

Content: Safety, man and technology, working drawings; construction industry; foundations; woodframe construction; building, systems; floor, wall and roof coverings; sheathings and insulation; interior and exterior surfaces; landscaping; salvaging and re-using construction materials; construction design principles; home management; consumer knowledge; careers.

MANUFACTURING TECHNOLOGY

This study offers students an opportunity to acquire an understanding of manufacturing as practised in contemporary society. It may be offered in senior high school.

Content: Planning and producing products; safety; industrial manufacturing processes; common types of business ownership; quality workmanship; careers; manufacturing materials and conservation; planning, casting, tooling-up and building prototypes; man and technology; conversion of raw materials into industrial materials.

HOME TECHNOLOGY

This study offers students an opportunity to acquire an understanding of how to establish and organize a home workshop and to develop skills of a pre-vocational and pre-occupational nature which can be applied in a variety of home maintenance and community service situations.

Content: Workshop benches and vises; safe tool care, maintenance and home workshop organization; machine construction; purchasing materials and planning jobs; general interior maintenance and repairs; general exterior maintenance and repairs; plumbing in the home; electricity in the home; climate control and maintenance; home masonry; miscellaneous repairs and maintenance; careers.

POWER TECHNOLOGY

This document provides resource material related to the principal energy and the alternative energy components of the Senior High Power and Energy — Level 2 teaching guide (No. 49, 1980). The document also includes sample unit outlines, modular technology topics and suggested energy experiments and projects. A detailed reference and resource materials section, listing texts, curriculum development projects, catalogues, associations and other materials completes the document.

RESOURCE BOOKS 1, 2 AND 3

Book 1 is a resource book of the traditional type of industrial arts projects used by many teachers across the province. For convenience and organizational purposes the book is assembled in the following sections: general woodworking, general metals, electricity/electronics and power and energy, graphic communications and other project ideas.

Book 2 provides resource information pertaining to the following topics: the design process, the production of models and prototypes, the presentation, recording and reporting of design technology work. This document also includes a variety of other topics relevant to the current industrial arts programs.

Book 3 provides teachers with ideas on how new technology can be inexpensively integrated into current industrial arts programs. Material related to the following technology are included: plastics, computers, model rocketry, manufacturing, robotics, and transportation. A comprehensive reference section concludes the document.

Languages

French — Second Language

Teaching Guides

French Core Program, Introductory Level (No. 2, 1977)
French Core Program, Intermediate Level (No. 21, 1978)
French Core Program, Senior Level (No. 22, 1978)
French, Communications (No. 19, 1977)
Reading, French, Second Language, Introductory to Senior Levels (No. 42, 1979)
ETV Guide, *Qui est là?* for French, Levels 5 and 6

Program and Course Descriptions

Elementary (Primary-Grade 6)

It is important that students be encouraged to develop positive attitudes toward both the French language and the people who speak it. Children should have the opportunity to hear and imitate good language models.

Skill development is also important during these first years. The students need to learn to distinguish between the new sounds of the French language and those of English. The use of English, however, must be kept to a strict minimum at all times.

The goal of all language learning is to develop the ability to communicate with others. It is essential that enough time be given to the development of listening and speaking skills in these first years, without neglecting reading and writing.

Careful consideration is to be given to the continuous nature of skill development in selecting program materials. These should help students progress as naturally as possible through the stages of language mastery and the appreciation of the French culture. Wherever possible, a classroom should be assigned as a French room so that the need to move equipment from one classroom to another will be unnecessary. A "French" atmosphere, created in such a classroom, can facilitate the teacher's work with the students. Much of the success of a French program depends on the ability of the teacher to generate an energetic, enthusiastic response in students.

Daily periods of French are more effective than longer, more infrequent periods. The use of songs, games and activities involving small and large groups of students encourages their participation in the oral use of the language. Whatever encourages the students to listen, respond, and eventually initiate conversation is to be emphasized. The integration of all aspects of the curriculum in the French program should add a new dimension to language instruction.

Junior High (Grades 7-9)

Co-ordination among all program components offered from elementary through the senior levels must be assured. *It is absolutely essential that elementary and junior high teachers maintain close communications and provide a smooth transition from one level to the other.* The transition from elementary French to junior high French should be well planned. Instruction should begin from where the students are. With the exception of a rapid review, parts of the program previously mastered should not be repeated.

Comprehension, speaking, reading and writing are the basic skills to be integrated. Emphasis should be placed on oral skill to encourage the students to use the language in their daily lessons.

Every opportunity should be used to have French spoken by both teachers and students. In no case should translation from English to French, or vice versa, be considered as a teaching technique in the school program.

The daily study of French can do much to help students learn the language more effectively. Whenever possible, the provision of a French classroom should be encouraged. It saves valuable time and energy in moving equipment and makes possible the creation of a "French" environment.

Whatever the program materials selected, the integrated processes (listening, speaking, reading and writing) will remain the same, although it is understood that all students will not achieve the same level of mastery.

Grades 7-9

FRENCH: COMMUNICATIONS

Students who have encountered difficulties in reading and writing may require more emphasis on the application of basic skills in real-life situations. This program is designed to stress oral communication while using reading and writing as support skills. It is important that oral French be used for classroom activities. *Translation is to be avoided.*

The program must provide for a thorough review of the early structures and vocabulary to permit students to familiarize themselves with the basic concepts of the language. Activity-based learning experiences (games, songs, projects, etc.) should be incorporated into the program. Understanding and speaking are of primary importance, where oral/aural activities need this support. Reading and writing at an appropriate level can be helpful to students. The availability of good reference material is important and teachers are encouraged to help students learn how to make use of it in small groups or individually. Activities which improve student interest and motivation are highly desirable.

Grade 7

FRENCH: CORE

For students who have had the benefit of French instruction during the grade 4-6 sequence, it is especially important to take full advantage of previously acquired knowledge and skills. The reading program takes on greater importance although speaking and listening still occupy 75 percent of program time.

Grade 8

FRENCH: CORE

This program encourages students to perfect their oral skills and to use reading and writing not only as support skills but also as a means of studying language behavior and structure. While it is important to spend 65 percent of the available time developing oral/aural skills, it now becomes important to stress reading and writing not only for pleasure but also for obtaining information. There must be assurance that comprehension takes place without resort to translation.

The vocabulary of reading materials should correspond closely to that of the program. These materials should neither be too easy nor too difficult. Students should not have to look up words in the dictionary continually or they will soon become discouraged.

Writing activities should follow directions in the teachers' guides.

Grade 9

FRENCH: CORE

At this level, about 60 percent of the student's time should be spent in practising and further developing oral communication skills, while the rest of the time is spent on reading and writing. It should now be possible for students to learn some new material from the written content of their program. They will also have the opportunity to continue a systematic study of the structure of the language as well as of its use.

**Senior High
(Grades 10-12)**

Extra reading materials at an appropriate level will be needed to provide a broader range of recognition vocabulary. The appropriate level of difficulty of reading materials selected within the intermediate range can best be judged by the teacher.

Throughout the final three years of high school the student's time is equally divided between the development of oral-aural skills and reading and writing. Students are now capable of learning new material from the written content of their program.

FRENCH 421 (FRE 421)

While maintaining the level of 50 percent oral/aural skills and 50 percent reading and writing, it should now be possible for students to read at an advanced level. They should have the ability to discuss orally (with some preparation) topics about which they have read. The study of structure should include some less commonly used forms and levels of language usage.

Literary passages and other appropriate reading materials at the senior level should be selected by the teacher. It would be expected that such materials would include newspapers and magazines as well as texts. The use of French radio and television programs, where these are available, as a base for comprehension and class discussion, is encouraged.

Composition and writing form an integral part of the program.

FRENCH 221 (FRE 221)

The students should now be capable of greater proficiency in both comprehension and oral expression. At the end of this level, they should be able to understand most French spoken by native speakers and should be able to express themselves with some fluency. Their level of reading should now lead them to observe more complex structures while their writing program should be gradually leading them to learn how to express their own ideas.

Care must be taken to avoid the study of structure for its own sake. Reference materials should always be available when a written assignment or test is given. Emphasis is given to what is practical and desirable to support oral communication and for this purpose the use of both reading materials and other stimuli such as radio, television, and audio-visual presentations, is essential. Classroom activities which include discussion, dialogue, oral reports, and games can do much to help the students develop their oral skills.

FRENCH 431 (FRE 431)

This level of study of language and its structure should now permit students to be quite competent to speak and write in authentic patterns. The reading program should include current topics as well as literary selections. Exercises, both written and oral, as well as projects can now become more interesting and innovative. This would be the normal level

of preparation for students who plan to pursue their study of language beyond the high school level.

Some students should be challenged with materials beyond this level. All should be provided with supplementary reading materials at the senior level. It may be possible for much of the actual teaching to take place through the use of these materials and others, while core materials should serve as a reference and for home preparation of more difficult structures. At least 50 percent of class time should be used for oral activities. This concentration of time should be reflected in the testing program given to students.

FRENCH 231 (FRE 231)

As their vocabulary increases, students should be able to respond spontaneously in conversation on a practical everyday level. They should be able to recognize and use good patterns of spoken and written language. They should be able to read and discuss magazine and newspaper articles. The writing program should help them express some of their own ideas in letters, short descriptions and other simple exercises.

Stress should be placed on the student's ability to communicate desired meaning briefly and plainly in practical situations in which they may find themselves. Listening comprehension is a skill which needs to be developed in classroom situations and does not consist in the memorization of words or phrases.

FRENCH 441 (FRE 441)

In the final year of the core French program, students should be able to respond spontaneously in conversation on a more advanced level. Shades of meaning should not present too great a difficulty and comprehension of French spoken with many different accents should be part of the students' training. Students should be able to distinguish between appropriate and inappropriate language patterns in spoken and written French. They should be able to prepare and present discussions on a variety of topics of interest to them and be able to write compositions of a fairly complex nature.

Reading of newspaper articles, sports events, world affairs, Canadian current affairs, should be part of the regular program. Students should be familiar with the works of some Canadian and French writers. All areas of interest can be the subject of formal debate, class discussions, organized public speaking, written composition, and letter writing.

FRENCH 241 (FRE 241)

In this final year of the communications program students will continue with experiences in oral/aural language development. Conversation will be extended to more complex topics and writing will reflect a more mature outlook on life by the students.

Reading for information and enjoyment will continue at a more advanced level. Articles from magazines and newspapers dealing with subjects of interest to the particular

age group of the students should form part of the program. Each classroom and/or school library should possess a variety of materials for supplementary reading.

SPECIAL NOTE CONCERNING FRENCH 231, 241, 431, 441

Credit for any of the above may be granted to students at the discretion of their school board as a result of the students' satisfactory completion of a six-week Summer Immersion Program funded by the Secretary of State and administered by the Department of Education.

It should be noted further that only three credits in French may be counted as part of the 16 required by the Department for high school completion.

Gaelic

Teaching Guide

A senior high Gaelic teaching guide is available from the Modern Languages Consultant, Curriculum Development Program, Department of Education, P.O. Box 578, Halifax, Nova Scotia, B3J 2S9.

Program and Course Descriptions

Elementary (Primary-Grade 6)

The aim is to encourage interest in and arouse curiosity about the Gaelic heritage. Initially, students are taught conversational phrases which are most frequently used so that they may experience a sense of satisfaction and achievement. The use of songs, games and stories will be very helpful at this stage. The songs and stories should be drawn from local tradition, if possible. This allows the students to receive approval in their own environment.

Opportunity should be provided for students to become familiar with historical events of particular significance to Canadians with a Scottish background. The lives of famous Canadians who share this common bond should be studied.

Daily periods of instruction in a second language are more effective than longer, more infrequent periods. It would be advantageous to have a particular classroom assigned to the teacher of Gaelic. The teacher may then create a better learning environment where language, social studies and cultural projects can be integrated as part of the Gaelic program.

With an early introduction to the oral/aural skills and an interest in the cultural background of the Scottish tradition, the students should find the motivation needed to maintain their interest. The level or levels at which Gaelic is to be

included is a matter for local decision, with Curriculum Development staff advice, if desired.

**Junior High
(Grades 7-9)**

While continuing to develop the aural/oral skills and providing the opportunity to deepen the students' understanding of Scottish culture, it will now be time to introduce the skills of reading and writing in Gaelic. A minimum of 25 percent of class time should be provided for this in the early stages. This should permit the students to profit from the advantages of their previously acquired skills, both for their further development and as a base for reading and writing. It is, however, important that speaking and aural comprehension not be neglected. It should be possible for the student, at the end of this stage, to use a four-skill approach to prepare simple compositions for both oral and written presentations.

**Senior High
(Grades 10-12)**

GAELIC 421 (GAE 421)
Prerequisite: None

The program for students who have not had previous instruction in Gaelic at the elementary and junior high school levels should be followed at an accelerated pace. For other students, the reading and writing skills would further support the already acquired aural/oral skills.

GAELIC 431 (GAE 431)
Prerequisite: Gaelic 421

By this stage, students should have acquired a reasonable degree of fluency in the oral use of the language. They should be allowed ample opportunity to continue to strengthen this skill. A study of grammatical structure is joined to the practical use of the four skills to enable students to begin to understand basic relationships in language usage.

GAELIC 441 (GAE 441)
Prerequisite: Gaelic 431

The four-skill approach with cultural elements continues to serve as a base for this level. Further studies in the structure of the language and readings at an appropriate level, selected by the teacher, will be part of this program.

German

Teaching Guides

German: Grades 10, 11, 12, revised edition.

Program and Course Descriptions

Senior High (Grades 10-12)

The program offered to senior high school students is designed to lead to proficiency in the four language skills (understanding, speaking, reading and writing). It also offers to students the opportunity to learn the fundamentals of German grammar, and to acquire some familiarity with German literature and other cultural and historical achievements. Because of the age, interests and academic background of the students who select German as a course option, it is usually possible for the program to progress at a fairly rapid pace. This allows teachers to offer core program materials during the first two years, followed by a selection of paperbacks on literary and cultural topics during the final year.

GERMAN 421 (GER 421)

Introductory German offers basic vocabulary and structures with some expansion to permit more interesting content. Core materials are presented in simple dialogues which gradually familiarize students with more complex material. Reading and writing are also introduced at this level through the use of exercises and essays designed for this purpose.

The direct method is used to present vocabulary and structure in familiar situations from the beginning. Program materials provide a range of high frequency vocabulary and expressions in the content of dialogues. After these have been practised, observations are made about structures which have been used and students are encouraged to learn how the elements of the language relate to each other.

GERMAN 431 (GER 431)

While the basic skills continue to be developed through appropriate use of program materials, the student is now encouraged to practise analysing grammatical structure. The reading program, which encourages "intelligent guessing" and penalizes "looking up," is designed to develop good reading habits by helping students grasp meaning from phrases and sentences rather than word by word. The use of the language is always stressed over the ability to quote rules or to translate. Both accuracy and fluency are encouraged in the oral use of the language, with the emphasis being on accuracy in these early stages.

GERMAN 441 (GER 441)

Core program materials continue to be available to assist in the development of the four basic skills; however, much of the students' development at this stage will focus on

language usage. A selection of printed materials designed to stimulate conversation and writing is now made available to students. The teacher's judicious use of such materials plus well-chosen projects can result in stimulating learning experiences. While students continue to analyse grammatical structure, to read, write and speak German, they should now be able to use their skills both for pleasure and information. This level is designed to prepare for university entrance programs as well as to provide a satisfying experience in language learning.

Latin

Teaching Guide

Latin Grades 9-12 (No. 40, 1979)

Program and Course Descriptions

Grades 9-12

Latin is offered to students in grades 9 to 12. The program is designed to help students learn to read Latin. At first, the emphasis is placed on becoming familiar with the language and later, with the literature and culture of the Romans. The study of grammatical structure aims to increase the students' ability to read at a more advanced level. As they become capable of understanding reading selections, they will also be learning to translate Latin passages into good idiomatic English. Throughout the program, both oral reading of Latin and oral translation of English into Latin is encouraged. As the students progress, they will need less stress on grammatical construction and more on reading so that, as their proficiency develops, they may have the opportunity to read Latin authors.

LATIN, GRADE 9

Introductory Latin stresses the development of acquisition of vocabulary. The pronunciation of new words and phrases and their comprehension helps students to enjoy the study of Latin. With respect to verbs, the first to the fourth conjugations are introduced in the present and imperfect indicative active tenses as well as in the imperative active. The agreement of adjectives in the first and second declensions is treated. Nouns of the first, second and third declensions are studied in the six cases. If time permits, it may be possible to introduce the study of third declension neuter nouns.

LATIN 421 (LAT 421)

This is a continuation of the Latin program offered at the grade 9 level. It is recommended that students continue their study of vocabulary and grammatical constructions while practising reading, both for free comprehension and for more accurate translation. At this level, the passive voice will be introduced. It is recommended that students progress

to a study of the present, imperfect and future indicative passive tenses in fourth conjugation verbs.

LATIN 431 (LAT 431)

As the student's vocabulary and knowledge of grammar increases, he/she is able to read with greater ease. Accordingly, extra reading material is now made available for use at this level for both comprehension and translation. Testing will probably occur at less frequent intervals and will be more comprehensive. It should be possible to progress to the study of deponent and semi-deponent verbs.

LATIN 441 (LAT 441)

In grade 12, there is a decreasing emphasis on grammar with a proportionately increased stress on reading. It is recommended that students have occasion to participate in projects involving research on topics already discussed in their reading program. Students should also now become more skilled in sight reading and translation. Regular review of materials learned earlier will be very important. It will also be essential that students have a good understanding of the ablative absolute and indirect statement constructions because of their extensive use in the grade 12 work. Progress tests in each unit of work can do much to assist in determining pace and areas of the program which need greater attention or emphasis.

Spanish

Teaching Guide

Espanol, Guidelines for the Teacher (No.4, 1976)

Program and Course Descriptions

Senior High (Grades 10-12)

The Spanish course offered at the senior high school level is a three-year course. Though it deals with the fundamentals of Spanish grammar and syntax, the main emphasis is on learning to understand and to speak Spanish. Students will spend much time practising the basic patterns of Spanish speech. Students will also gain some insight into the cultural achievements of Spain and Latin America: they will have opportunities to listen to and sing Spanish songs, read simple Spanish stories and poems, listen to Spanish radio programs, and watch Spanish films. Students will also be encouraged to correspond with pen-pals in Spain and/or Latin America.

SPANISH 421 (SPA 421)

Students learn to understand and to speak Spanish with a minimum of grammar. They will spend much time practising basic language patterns.

The greatest emphasis should be placed on the skills of comprehension and pronunciation so that students can learn to hear speech patterns which they will be encouraged to imitate as accurately as possible. After correction of errors and subsequent practice of pronunciation drills, students progress to the directed "dialogues." These should provide practice for groups of two students in the most frequently used expressions of the language. Games, songs and other classroom activities will help keep the program interesting and avoid overemphasis on the written word before students acquire sufficient oral/aural skill.

SPANISH 431 (SPA 431)

This is a continuation of Spanish 421. Students will become familiar with more complex patterns of speech. Simple stories will be introduced. By the end of the year, some students should be able to participate in basic conversations with native speakers of Spanish.

The use of simple to complex substitution drills in basic language patterns will help students acquire the ability to manipulate structure and vocabulary at this level. All presentations should begin with the oral introduction of new material. As students become familiar with the "dialogues," they are taught to read the material and adapt it to their own situation. Appropriate levels of vocabulary and structure to be presented may be selected from the recommended program materials and the *Guidelines*.

SPANISH 441 (SPA 441)

A continuation of Spanish 431. More challenging reading selections will be introduced. Radio programs taped from South American short wave stations will be used to get students accustomed to follow by ear Spanish spoken at normal speed. Students will do some original composition work.

Since students should now have acquired a reasonable level of oral/aural skill as described in the two earlier levels of Spanish, more use may now be made of the written form of the language. Composition is now a frequent activity and will progress from a series of simple statements made in response to question clues, to more original work. For some students, this can be quite productive; others will not be capable of performing such demanding or complex exercises. The more complex structures and vocabulary recommended in program materials for level 441 will need widely varying methods of presentation. Suggestions in the teacher's key and in the *Guidelines* may assist the teachers in these presentations.

Mathematics

Teaching Guides

Adjusted Program, Mathematics (No. 53, 1980)
Mathematics P-6 (No. 17, 1977)
Mathematics Seven and Eight (No. 13, 1978)
Mathematics Nine and Ten (No. 81, 1983)
Mathematics 221, 231, 241 (No. 18, 1977)

Supplementary Documents

Checkpoint Strategies (No. 25, 1980)
Mathematics Nine (No. 51, 1984)

The following are available from the Nova Scotia School Book Bureau:

Mathematics 431: A Study Guide (Part 1)
Mathematics 431: A Study Guide (Part 2)
Mathematics 441: A Study Guide (Part 1)
Mathematics 441: A Study Guide (Part 2)

Program and Course Descriptions

PROGRAM: GENERAL OVERVIEW

The elementary mathematics program is divided into three strands:

1. number operations and relationships;
2. measurement;
3. space and shape relationships.

These topics should be interrelated and explored in a spiral manner to provide many varied opportunities for children to discover the order, pattern, and relations which are the basis of mathematics and to acquire the necessary mathematical skills.

Children in early elementary school are to be given ample opportunity to develop their abilities to compare, to classify and to sort before working with the concept of number. These preliminary abilities and concepts are essential to the future mathematics development of children.

The elementary mathematics program emphasizes working with decimals. All children need to acquire an efficient method for each of the four operations with whole numbers and with decimals. These methods are to be well grounded in experiences with concrete materials using first real objects and then structural materials such as unifix cubes or base blocks. Children should apply these operations to many real world situations.

Elementary (Primary-
Grade 6)

The work done with fractions concentrates on halves, fourths, fifths, tenths and hundredths, with most of the computational work with fractions done only at grade 6.

Pupils should have many problem-solving experiences with an emphasis on acquiring various strategies for solving problems.

The following are some of the specific concepts and skills to be acquired by each pupil to the fullest extent of development or mastery that can be expected of the pupil concerned.

Primary-Grade 3

Numbers — Operations and Relations. Read and record relationships between numbers using concrete material; correctly use words for "greater than," "less than" and "equals" to show relationships; skip count by 2s, 3s, 4s, 5s and 10s; recognize and continue number patterns; master addition and related subtraction facts through 18; master multiplication and related division facts through 5×5 and develop to 9×9 ; identify $1/2$, $1/3$, $1/4$, $1/5$, $1/10$ of a region; use decimals 0.1 to 0.9 and 0.01 to 0.99 in real world situations; add and subtract two- and three- digit numerals; multiply two- and three-digit numerals by a one-digit numeral; identify mathematical problem situations in the real world and begin to develop methods to solve these problems.

Geometry — Shape and Space Relationships. Classify and sort objects according to various attributes; recognize, describe and extend patterns; recognize geometric shapes in real world situations; construct three-dimensional and two-dimensional models; identify and name various three-dimensional and two-dimensional shapes in different positions and sizes; identify symmetrical shapes; identify lines of symmetry; create symmetrical designs; identify plane figures which are congruent; demonstrate some of the properties of geometric shapes.

Measurement and Relationships. Compare and order objects as to length, height, volume, mass; estimate and measure using non-standard units; estimate and measure using centimetre, metre, grams and kilograms, litres, degrees Celsius; use standard metric measuring instruments; tell and write the time; understand weeks and months; correctly use money for purchasing and making change; collect data; construct and interpret pictographs and bar graphs.

Grades 4-6

Operations and Relationships. Correctly use symbols for "greater than," "less than" and "equals" to form sentences; find the solution to simple equations and inequations using whole numbers; solve word problems; demonstrate knowledge of the commutative, associative, and distributive properties and the properties of zero and one, by using them to shorten computational problems; use patterns of multiplying and dividing by 10, 100, and 1,000 to estimate answers; correctly use the multiplication algorithm and division algorithm; maintain mastery of basic addition and subtraction facts; master multiplication and division facts to 9×9 ; find the factors and multiples of a number; find the

G.C.F. and L.C.M. of a pair of numbers; read and identify decimals to thousandths; add, subtract, multiply and divide decimals; estimate products and quotients of decimals; use decimals in problem-solving situations; use ratio in applied mathematical situations; find a given percent of a number; demonstrate an understanding of fractions through the use of concrete materials; solve simple addition, subtraction, multiplication and division problems using fractions (mostly halves, fourths, fifths, tenths, and hundredths); use integers in physical situations; order integers on the number line; add integers; identify mathematical problem situations in the real world and develop strategies to solve these problems; use the calculator for computation concept development and problem solving.

Geometry — Shape and Size Relationships. Classify, sort and identify two-dimensional and three-dimensional geometric shapes; construct geometric models, identify vertices, faces, edges; identify parts of a circle; identify lines of symmetry, perpendicular and parallel lines, types of angles; use various geometric instruments to construct geometric figures; draw reflections and demonstrate simple turns and flips with various geometric shapes; develop pattern designs such as tessellations; demonstrate properties of shapes and their interrelationships.

Measurement and Relationships. Estimate and measure using metre, centimetre, millimetre, kilometre, kilogram, gram, litre, millilitre, degrees Celsius; correctly use prefixes of SI metric system; find perimeter, area and volume of various geometric figures; locate points in the co-ordinate plane; read and interpret tables, charts and graphs; collect data, construct and interpret picto, block, bar and line segment graphs.

At all levels, a variety of teaching methods and working conditions are used:

- extensive experience with concrete materials whenever a new concept is introduced
- care so that each individual has opportunity to proceed at his/her own rate through the stages of
 - experimentation with material
 - formation and testing of hypotheses about the relationships she/he perceives
 - communication of his/her findings, first by word of mouth or by diagram, then in writing or symbols
 - practice to establish a concept once it has been understood, always following, never preceding discovery.

It is essential in this program, as in other disciplines, that each student enjoy and succeed in his or her work. The student's attitude to learning is of prime importance. The seeds of a positive attitude are sown in countless real situations, activities, discussions and applications to new situations in which the students increase their confidence in their ability to cope with the world.

Junior High (Grades 7-9)

In order to meet the varying needs and abilities of pupils in the junior high school, the mathematical experiences available should be large in scope and varied in purpose. They should evolve from the students' earlier learning experiences; hence, those planning the program must have a clear understanding of the current developments in the elementary school mathematics program. To maintain student interest and responsibility in the learning situation, teachers should broaden their classroom techniques to include such methods as small group investigations, mathematics laboratory experiences, games and puzzles, visual aids, concrete models, applications to the environment, problems related to real situations, projects, and individualization of some aspects of the program.

Teachers should be aware of the spiral nature of the mathematics curriculum in which ideas are introduced early and extended by periodically returning to consider them at greater depth.

The emphasis of the mathematics program should be on:

1. the development of both concepts and skills
2. the development of problem solving strategies;
3. the use of the calculator to develop concepts, as an aid in problem solving, and for some computations;
4. estimation skills;
5. applications involving real-world situations
6. use of computer software that will help develop concepts.

GRADE 7

Review of operations and properties of whole numbers and decimals; mental arithmetic skills, with emphasis on estimating answers and using appropriate estimation strategies; extension of work with fractions to begin to develop competency; addition and subtraction of integers; factors, prime and composite numbers, LCM, GCF; problem solving, including applications to real situations; estimation, metric measurement applications; ratio, proportion, percent, consumer problems, similarity; statistics, simple probability; relations, functions, co-ordinate graphing; equations, inequations; various types of polygons and some of their properties; symmetry, slides, flips, turns; simple geometric constructions; reading and interpreting tables, charts, maps and graphs; strategies for problem solving.

GRADE 8

Continued work with whole numbers and decimals, mastery of operations with common fractions and integers with emphasis on applications, problem solving and estimation; solutions to equations and inequations; relations, functions, co-ordinate graphing; square roots, exponents, scientific notation; application of metric measurement including perimeter, area, volume, estimating, rounding, precision of measurement; Pythagorean Theorem; ratio, proportion, percent, scale drawing; consumer problems; statistics, collecting data, constructing graphs, reading and interpreting

tables, charts, maps and graphs, probability; congruence transformations and their properties; geometric properties of plane figures, simple constructions, similarity; strategies for problem solving.

GRADE 9 — ACADEMIC

Extension of previous work with integers, rational and irrational numbers, exponents, decimal approximations of square roots, applications including Pythagorean Theorem; review of SI measurement, including perimeter, area, volume and surface area, and precision, estimation; relations, solving linear equations and inequations, graphing relations, evaluating expressions, adding and subtracting polynomials, multiplying and dividing by monomials, product of two binomials, common factoring, factoring $1x^2 + bx + c$; ratio, proportion, percent, rate, applications from business and commerce, size transformations, scale drawing; transformations and their properties, algebraic descriptions of translations and reflections; properties of geometric figures including types of angles, triangles, quadrilaterals and other polygons, parallel and perpendicular lines, angle bisectors, perpendicular bisectors, altitudes, angles in circles, lines of symmetry, turn symmetry; constructions; congruence; review and extension of ideas of 3-D figures; statistics including organizing and displaying data, interpreting tables and graphs, abuses of statistics, simple data gathering techniques including random sampling and non-rigorous predictions based on sampling; strategies for problem solving.

OR

GRADE 9 — MATHEMATICS — WITH CONSUMER APPLICATIONS

NOTE: This course is under review. Schools offering *Mathematics — With Consumer Applications* should consider offering the revised alternative grade 9 mathematics program *Mathematics — A Study Skills Approach*. Schools wishing to offer this program in September 1988 may do so, and it will be available to all schools in September 1989.

Mathematics — With Consumer Applications is intended for students who need more time to cover the basic skills of mathematics and more emphasis on applying them to consumer-related problems. The needs and abilities of these students are varied and they should be given every opportunity to develop the mathematical understanding and skills that will benefit them. These students require patient assistance and an opportunity to experience success in mathematics.

The topics to be covered are reading and interpreting tables, charts and graphs; using whole numbers, decimals, fractions in applied situations; metric measurement; plane and solid geometric figures and some of their properties; ratio, proportion, percent; rounding, estimating; scale drawings, graphing; banking services, buying and selling goods and services, consumer tips, personal finances; and simple algebra.

OR

GRADE 9 — MATHEMATICS — A STUDY SKILLS APPROACH

NOTE: This course may be offered in place of *Mathematics — With Consumer Applications* if the audience is appropriate.

This course is intended for students who will benefit from a year spent upgrading fundamental mathematics concepts and skills in a learning environment which emphasizes the development of appropriate study skills, attitudes, and behaviors. Student participation in this course must include school and home involvement both in the registration process and in the recommendations for future mathematics options upon completion of the program.

This course does not present a radical departure from the regular grade 9 content — numbers and their applications, ratio and proportion, statistics, measurement and geometry, and algebra. However, a considerable portion of class time will be spent examining fundamental concepts and skills in these areas, and in developing related mathematical study skills — time management and organizational skills, notebooks and note taking, language and mathematics, test-taking and preparation, decision making, visualization skills and problem solving strategies. Specific teaching and learning methodologies are intended to minimize anxieties that are usually associated with difficulties in mathematics.

ADJUSTED PROGRAM GRADES 7-9

The major aim of the adjusted mathematics program is to develop the students' ability to use mathematics in situations that occur in daily life.

This three-year program includes the topics of number patterns and skills, estimation, ratio, proportion, scaling, measurement, statistics, applied geometry, and consumer mathematics. Emphasis in this program should be placed on concept and skill development through the use of concrete manipulative materials, calculators and computers. Estimation strategies and skills, applications and problem solving should be an integral part of this program.

Senior High
(Grades 10-12)

GENERAL NOTE

Teachers should be aware of the spiral nature of the mathematics curriculum in which ideas are introduced early and extended by periodically returning to consider them at greater depth.

Emphasis should be given to

- the development of concepts utilizing concrete situations and students' intuition;
- the development of problem-solving strategies;
- applications involving real world situations;
- the integration of algebra, geometry, trigonometry, etc.;
- the development of estimation strategies.

Teachers should utilize the calculator as a tool in computation and to help develop concepts. Appropriate computer software that will help develop concepts or enhance the teaching process should be used whenever or wherever possible.

NOTE: All 200-level mathematics programs are under revision.

MATHEMATICS 221 (MAT 221)

Measurement, perimeter, area; ratio, proportion percent; banking services, credit; rational numbers, exponents, simple radicals, square root, Pythagorean Theorem; number patterns; simple equations, inequations, formulas used in business and industry; consumer mathematics including pay cheques, taxes, budgeting, government services, purchasing goods and services; reading and interpreting tables, charts, and graphs; collecting, organizing and analysing data; geometric constructions, measurement of solids, review of the SI metric system, indirect measurement; relations, linear equations, co-ordinate graphing, graphing linear equations, applications of linear equations. Applications in this course may focus on either problems from business or from trade and industry.

MATHEMATICS 421 (MAT 421)

Prerequisite: Grade 9 Academic Mathematics

Relations, functions, linear equations including slope and intercept, systems of linear equations, inequations, applications; review of SI measurement; ratio, proportion, consumer applications, Pythagorean Theorem, irrational numbers, radical expressions, right angle trigonometry and applications, direct and inverse variations; co-ordinate geometry including distance, midpoint, slope of parallel and perpendicular lines, investigation of properties of triangles, quadrilaterals and circles, vectors and applications; statistics including gathering, organizing and using data, random sampling, making inferences about a population, abuses of statistics; review of congruence transformations and their properties, deductive reasoning leading to formal proofs, composition of transformations, algebraic descriptions of transformations, introduction to dilatations, applications; operations with polynomials, factoring, quadratic equations.

MATHEMATICS 231 (MAT 231)

Prerequisite: MAT 221 or MAT 421

Statistics, reading and interpreting tables, charts, maps and graphs, abuses of statistics; rational numbers, consumer mathematics, exponents; solving linear equations and inequations, using formulas; ratio, proportion, variation; credit, banking services, savings, investments, taxes; measurement, accuracy and prevision, linear measurement, area, volume, mass, surface area; scale drawings, similar figures, right triangle trigonometry and applications, geometry construction, relations, problems of operating a business; co-ordinate graphing of relations, solution of

simultaneous equations and inequations, applications, algebra (products and factors), introduction to quadratics.

MATHEMATICS 432 (MAT 432)

Prerequisite: MAT 421

Problem-solving skills and strategies; polynomials, radicals, real numbers; linear equations, systems of linear equations and applications, inequations and systems of inequations, linear programming; ratio, proportion, variation including direct, inverse, joint; quadratic equations and applications; analytic geometry including properties of figures, circles and parabolas; statistics including using data for decision making, testing hypothesis through experiments and simulations, probability and expectation; right angle trigonometry, laws of sines and cosines and applications, graphs of sine and cosine; three-dimensional geometry; mathematics for daily use including banking and income tax; matrices, operations, applications including inventory and production costs, transformations related to matrices.

MATHEMATICS 431 (MAT 431)

Prerequisite: MAT 421

NOTE: This course is intended for students who will have to take at least a full-year calculus course in their program at post-secondary institutions.

Emphasis in this course is on proof, derivation and problem solving. Many opportunities will be provided to use algebraic manipulation in applied situations.

Functions: constant, linear, quadratic, exponential, logarithmic and trigonometric; for each of these functions studies should include graphing (translations, reflections, stretches and their effects on the equations and graphs), inverse function, evaluations for various substitutions, zero(s) and assigned $f(x)$ values, inequations, applications and calculator use; law of sines and cosines, identities, trigonometric equations; matrices and operations, relations of matrices and transformations; matrices and linear systems; dilations; proofs, similar triangles, basic proportionality theorem; introductory theory of probability, permutations, combinations and binomial theorem; circles and ellipses; transformations, intersections, angles in circles, lines and segments relative to circles.

MATHEMATICS 241 (MAT 241)

Prerequisite: MAT 231 or MAT 432 or MAT 431

Statistics, probability; income tax, financial management, investments, credit; linear equations using slope intercept and applications; ratio, proportion, variation; applications of second degree equations*; measurement in industry, accuracy and precision, scale drawings; graphing and solving equations, inequations, linear programming; consumer problems including house and car ownership, life insurance, budgets, record keeping; problems in industry, estimating, formulas, applied geometry, applied

trigonometry*, problem solving; co-ordinate geometry*, algebraic expressions*, vectors*.

*These topics should relate particularly to the interests and capabilities of the class and to their career requirements.

MATHEMATICS 442 (MAT 442)

Prerequisite: MAT 432 or MAT 431

Problem-solving skills and strategies; statistics and probability including experimental and theoretical probability, testing of hypotheses through experiments and simulations, expectation, chi-square; relations and functions; quadratic and linear functions including transformations and their effects on the graphs and equations; review of operations with polynomials, equations involving rational expressions, applications including maximum and minimum problems, quadratic regions, linear and quadratic systems; exponential functions, graphs and applications; logarithmic functions, graphs, working with calculators, applications; analytic geometry including intersections of circles, lines and quadratics, extension to co-ordinates in 3-space, distance and equations and planes in 3-space; matrices including row operations and using the augmented matrix to solve systems of linear equations, applications; sequence and series including applications to compound interest, annuities, mortgages, introduction to limits using calculators and/or computers.

MATHEMATICS 441 (MAT 441)

Prerequisite: MAT 431

NOTE: This course is the continuation of MAT 431, intended for students who will have to take at least a full-year calculus course in their program at post-secondary institutions.

Emphasis in this course is on proof, derivation and problem solving. Many opportunities will be provided to use algebraic manipulation in applied situations.

Review of constant, linear and quadratic functions, polynomial functions, theory of equations, factor theorem, rational root theorem; rational functions, curve sketching, operations with rational expressions; algebraic functions, review of exponential and logarithmic functions extended to include e^x and $\ln x$; conic sections (parabolas, circles, ellipses and hyperbolas): transformations, locus treatment, cylinders, cones and spheres; review of trigonometric functions, graphs; compound, double and half-angle identities; equations; vectors on the plane and in 3-space; complex numbers, De Moivre's theorem, polar co-ordinates; sequences and series and applications; introduction to calculus including limits, tangents, slopes of curves, velocity and acceleration, differentiation of simple functions and anti-differentiation of simple functions.

MATHEMATICS 541 (MAT 541)

Prerequisite: MAT 431

NOTE: This course is under review in light of the introduction of Mat 431 and 441. New guidelines will complement the current 441 program.

This course is for students with special interest and ability in mathematics. The topics include an in-depth study of pre-calculus mathematics and some introductory calculus.

MATHEMATICS: STATISTICS 441 (STA 441)

NOTE: This program is undergoing major revisions in light of the statistics components now included in all Nova Scotia mathematics courses. The future direction of this course will be determined on the basis of pilot program results.

Music

Teaching Guides

Music P-4 (No. 76, 1981)

Music 5-9 (No. 46, 1980)

A Supplementary Program for Children With Special Needs
(Levels P-6) (No. 5, 1977)

A High School Course in *Canadian Music Studies*
(CMU 331)

Program and Course Descriptions

GENERAL NOTE: PRIMARY THROUGH GRADE 12 LEVELS

The music education program is designed to provide a balanced, broad musical experience from primary through grade 12. The chief aims are the development of an aesthetic response, good musical taste and discrimination, together with an understanding of as many as possible of those diverse elements embodied in the term "music." At all grade levels, music activities should form an integral part of as many aspects of the total education program as possible.

Elementary (Primary- Grade 4)

The music program for these levels is outlined in the guide *Music — Primary to Four*. Music involves many of the senses simultaneously, through continuous and active participation. All music classes in the early grades should contain some type of performance, no matter how simple. Active participation develops skills — physical, mental, verbal. Acquiring such skills develops self-confidence in performance, with the resulting feeling of self-esteem.

This program will be particularly effective where there is collaboration between the music teacher and other teaching personnel.

The following should be considered the minimum time allotments for delivery of an effective elementary music program:

Grades	P & 1	3 x 20 minutes per 5 or 6-day cycle
	2 & 3	3 x 25 minutes per 5 or 6-day cycle
	4-6	2 x 40 minutes per 5 or 6-day cycle

For advice and assistance concerning any phase of the elementary music education program, classroom teachers, music teachers and principals should consult the head of their school system regarding available resource persons, or the Music Consultant, Department of Education.

Elementary and Junior High (Grades 5-9)

The music program in these levels is outlined in the guide *Music 5-9*. Implied is the carefully gauged exposure to the more disciplined type of performance, listening, composition and, through projects, other facets of the expressive arts.

All activities at these levels must have as their central goal the improvement of musical perception, and the development of musical sensitivity. To this end, the program is "two-pronged" — offering both performance and general music at all levels from grade 5. The general music provides an extensive exposure to a broad range of musical experiences; the performance experiences are designed to provide an intensive and intimate contact with many types of music. Performance alone is not sufficient. It is only when the mastery of musical skills and the development of musical understanding are both pursued — the one supporting the other — and when musical exposure through the careful selection of materials and presentation of experiences is the major goal, that true musical education will be attained.

Senior High (Grades 10-12)

Although all parts of the program may be made available separately to students, it should be noted that certain skills — especially performance and perceptual skills — are cumulative, and admission to music class must therefore be at the discretion of the music teacher and/or the school administration.

To obtain a full academic credit in any one year, a student must take general music courses, and performance. The general music courses will include at least rudiments, harmony, ear-training, and history. The performance aspect may include work in either the instrumental or vocal disciplines.

Academic credit may also be obtained through private study. The student must offer proof of work successfully completed in both performance and general courses. The performance may be in voice or on any instrument examined by a recognized music institution. The general courses will include rudiments and harmony, history and ear-training. The examinations must be offered by recognized music institutions, and the student shall present certificates of successful completion of the exams to the administration of the high school concerned. Regulations regarding the acquisition of high school music credits through private

study are available from the Music Consultant, Department of Education.

MUSIC 321 (MUS 321)

Theory

1. Rudiments — notes, rests, simple metres, anacrusis, rests, grand staff, etc
— piano keyboard
2. All major scales, key signatures, treble and bass clefs, pentatonic scales.
3. Musical terms and signs.
4. (Optional) Composition — melodic, employing pentatonic and major (diatonic) scales, usually one or two phrases of the question-and-answer type.

Perceptual Skills

1. Rhythmic dictations, using simple metres.
2. Interval dictations, within an octave, above or below a given pitch.
3. Melodic dictations using diatonic melodies within an octave.
4. Simple form — AB, ABA, rondo.

History — Emphasis will be on the Classical and Baroque periods.

MUSIC 331 (MUS 331)

Theory

1. Review of grade 10 requirements.
2. Rudiments — add compound metres
— add extra terms and signs
— all ascending and descending intervals within an octave.
3. Melodic transposition.
4. Minor scales — up to 3 sharps, 3 flats, natural minors.
5. (Optional) Overview of ecclesiastical modes.
6. (Optional) Reading orchestral score.
7. (Optional) More extended composition, using more than two phrases, and adding a second part.
8. Chords, triads, up to the dominant 7th.

Perceptual Skills

1. Rhythmic, intervallic and melodic dictation as in grade 10.
2. Form — fugue.

History — Emphasis on the Romantic period.

CANADIAN MUSIC STUDIES 331 (CMU 331)

This course in Canadian Music Studies has been designated by the Minister as one that can fulfil the compulsory Canadian studies requirement. Although open to any high school student, it is strongly recommended that those taking it possess a working knowledge of music. Studies will include work in all four aspects of the course — folk music, performance, composition and composers, and the music industry — and each of these will be examined in relation to both the music and history of our country. Although given a

grade 11 credit, the course may be taken in any of the years 10, 11 or 12.

MUSIC 341 (MUS 341)

Theory — Completion of work from previous years, plus continuing application of theoretical materials and processes.

— Review of chords, triads, inversions.

Perceptual Skills

1. Continuation of dictations of previous grades.
2. Study of full sonata form.
3. Polymetric rhythms and atonality.

History — Emphasis on music before 1600 and since 1900.

Optional — continued work in optional elements of previous years.

Personal Development and Relationships

Teaching Guides

Education and Career Explorations, Grade 7 (No. 99, 1987)

Education and Career Explorations, Grade 8 (No. 103, 1987)

Program and Course Description

Junior High (Grades 7-9)

Personal development and relationships is a three-year program designed for all junior high students (grades 7-9). It is based on the goals of public education and is intended to provide students with the knowledge and skills that will enable them to grow personally and intellectually. Its six sections — Self, Feelings, Relationships, Career Planning, Human Growth and Development, and Decision Making — deal with the individual's responsibilities, behaviors, sense of values, and relationships at home, with peers, and with others. The themes of decision making and communication underlie the entire program.

Grade 7

Each of the components develops a student's basic understanding of the various concepts: the importance of the decision-making processes and their application, the nature and importance of feelings, relationships with friends, the role and influence of the family, the nature of self-concept, educational and career exploration and planning, and a basic awareness of stages and levels of physical, social and emotional development, the process of reproduction and concerns related to diseases including sexually transmitted diseases such as AIDS.

Grade 8

While expanding upon each of the concepts offered in grade 7, attention is focussed on the student's ability to apply them; e.g., managing feelings, using decision-making models, developing a positive self-concept, recognizing the role and influence of friends and peers, setting long-range goals based on an understanding of oneself and the world of work and a basic understanding and respect for self and others in relation to sexuality, sexual attitudes, sexual expression and the transmission, treatment and prevention of sexually transmitted diseases including AIDS.

Grade 9

This year focusses on personal behavior, responsibility, the consequences of one's actions for others and the necessity to think beyond one's self. This is encompassed in a student's understanding and acceptance of his/her capabilities — intellectual, social, emotional and physical — as they affect others at home and in school. The student will focus on specific educational planning and become aware of the options and opportunities available in the work place and in the community. Also included are concerns and decisions related to social issues including child abuse, human sexuality, teenage pregnancy, sexually transmitted diseases including AIDS.

Physical Education

Teaching Guides

- Physical Education, Part I, Aims and Objectives, Organization & Administration (No. 5, 1970)
- Physical Education in the Elementary Schools, Book I, Levels P-3 (No. 4, 1975)
- Physical Education in the Elementary Schools, Book II, Levels 4-6 (No. 8, 1976)
- Daily Physical Activity, Primary-Grade 6, (No. 92, 1985)
- Physical Education in the Junior High School, Levels 7-9 (No. 14, 1977)
- Physical Education, Grades 7-12 (No. 94, 1985)
- Physical Education for Children with Special Needs, Grades Primary-12 (No. 100, 1987)

Supplementary Documents

- Elementary Resource Book For Daily Physical Activity (No. 55, 1985)
- Fitness Development in the Public Schools (No. 10, 1978)
- Intramural Programming, A Public School Guide (No. 9, 1978)
- Orienteering (No. 13, 1978)
- Canoeing (No. 12, 1975)
- Touch Football (1975)
- Outdoor Education, A Resource Book (No. 23, 1980)
- ETV Guide, Bixby and Me I, Movement Education Levels P-1

ETV Guide, Bixby and Me II, Movement Education Levels 2-3

ETV Guide, Turtle Soup, Levels P-2

ETV Guide, Inside Out, Levels P-4

ETV Guide, The Body Works, Levels P-6

Videotape copies of any of the video series above can be made available by sending in blank tapes to Education Media Services, 6955 Bayers Road, Halifax, Nova Scotia, B3L 4S4.

Program and Course Description

The primary aim of the physical education program from primary through the senior high schools in Nova Scotia is to help students develop and participate in a purposeful, physically active lifestyle that will enable them to experience a more enjoyable quality of life physically, mentally, emotionally and socially. If students are to be involved in physical activity on a lifelong basis, they must be equipped with the skills, knowledge and attitudes that will enable them to enjoy and benefit from these activities. In order for the students to acquire the necessary skills, knowledge and attitudes, it is important that teachers establish a positive learning environment inside and outside the classroom, the gymnasium and the school.

A well-balanced physical education program should give consideration to the students being taught, to the selection of the physical activities being offered, to the administrative organization of the program and to the evaluation procedures that are to be used.

Many factors influence the organization and administration of the program and, therefore, the balance in it. These factors might include staffing, timetabling, school objectives, facilities available, school and/or district policies, transportation, budgeting, student background, socio-economic factors of the community, class size and the grouping of students within a physical education class.

Elementary (Primary-Grade 6)

In the early grades of elementary school (P-3) the student should be given opportunities to develop fundamental perceptual motor skills which are prerequisites to more complex motor co-ordination with an emphasis on rhythmic activities and dramatic play. Communication skills, central to any learning experience, are developed mainly through participation in play. Students at this age use movement as an effective means of self-expression and communication.

The physical education program at this level has five major areas with physical activity as a central focus: gymnastics, dance, games, outdoor pursuits and fitness. This program forms a part of an integrated curriculum which should involve other aspects of the elementary school program in a planned activity or experience.

The physical education program in the senior elementary grades (4-6) progresses naturally from the program in the early grades to include an extension and refinement of gross and fine motor skills, gymnastics, fitness and emphasis on outdoor pursuit activities. Play and movement experiences continue to be important for all growing children as they continue to mature.

Some children will require continued development of such skills as balance, hand-eye co-ordination, foot-eye co-ordination, a sense of rhythm to name a few. Time during the school day provides an excellent opportunity for motor learning and activities to help the less motorically gifted are encouraged and should be continued.

Students in grades primary-6 are involved in daily physical activity. This is a planned program of physical movement experiences intended to be an enhancement of the physical education component of the curriculum, not a replacement of it. It is designed so that all students will have the opportunity to participate in a variety of physical movement experiences that promote positive attitudes towards the pursuit of lifelong personal fitness.

Junior High (Grades 7-9)

The physical education program at the junior high level should help the students understand that physical fitness and physical activity are necessary to have a healthy body. Opportunities should be provided so that students can maintain and develop cardiovascular endurance, flexibility and muscular strength and endurance.

Students should understand that basic motor skills can be adapted for and refined by participating in specific physical activities such as running, projecting an object through space by kicking, pushing, throwing. The program should allow the student to develop a positive attitude through physical activities and derive enjoyment through participation in physical activities as found in the instructional, intramural and interscholastic components of the program.

Senior High (Grades 10-12)

At the high school level, physical fitness, lifetime recreational skills, leadership and understanding of the need to change sedentary lifestyles are the primary interest areas. The credit program at the high school should motivate the student to develop a sound, healthy body through activities specifically designed to promote physical fitness. The program should be challenging but should also allow for personal achievement at various levels of participation. Individual differences, needs and desires should be taken into account, if the program is to be effective, promote a healthy self-esteem and provide success and enjoyment. Together, these aspects of physical education in conjunction with a sound intramural and interscholastic program, should provide the student with a comprehensive program.

The elective physical education program in the high school should help students understand that physical activity is necessary for maintenance of physiological efficiency. During their final years of public education, they should be

given the opportunity to evaluate their own personal fitness levels and be able to interpret any implications of the physical fitness test results. Having done this, they should be able to, through the assistance of the physical education teacher, construct and use a physical fitness program to maintain and develop desirable levels of physical fitness. They should also be able to develop fundamental skills and knowledge of specific activities that will enable them to enjoy leisure time pursuits outside the school.

PHYSICAL EDUCATION 321 (PHE 321)

In schools which offer three sequential years of high school physical education, Physical Education 321 should consist primarily of additional skill refinement in both team and lifelong recreational activities and some leadership opportunities.

PHYSICAL EDUCATION 331 (PHE 331)

This program places greater emphasis on lifetime recreation activities, making for a balance of both indoor and outdoor activities. Physical fitness continues as a priority as do leadership skills.

PHYSICAL EDUCATION 341 (PHE 341)

Concentration in this course should be on fitness opportunities, outdoor pursuits, individual and dual games. Many opportunities should be offered to learn and practice leadership skills.

Science

Teaching Guides

Science in the Elementary School (No. 35, 1978)
Science in the Junior High Schools (No. 98, 1987)
Adjusted Program (Academic) Science, Mathematics
(No. 53, 1980)
Biology 221 (No. 33, 1978)
+Biology 421, 521, 441, 541
Chemistry 431, 441, 531, 541 (No. 108, 1988)
Geology 241 (No. 9, 1977)
Geology 441 (No. 38, 1978)
Oceanography 331 (No. 84, 1983)
Physical Science 231 (No. 41, 1979)
Physical Science 421 (No. 34, 1978)
Physics 431, 441, 531, 541 (No. 93, 1985)

+Planned for publication in 1988

Supplementary Documents

SI Metric Guide for Junior and Senior High Schools
(No. 18, 1978)

Oceanography Handbook (1983)

Safety in the Chemistry Laboratory (No. 47, 1984)

A Safety Manual for Science Laboratories and Classrooms
(No. 48, 1984)

Safety In-Service Bulletin (No. 49, 1984)

Mathematical Physics Problems for Physics 431 and 441
(No. 54, 1985)

Chemistry Problem Book

Chemistry Lab Manual

Program Description

Elementary (Primary- Grade 6)

The elementary science program provides experiences which will encourage positive attitudes to science, and develops science skills which will serve as a basis for scientific concept development in later years.

The skills which are to be taught are: observing, classifying, using numbers, measuring, communicating, predicting, inferring, finding variables, and, in the later elementary years, formulating hypotheses, controlling variables, interpreting data and experimenting. The development of these skills and positive attitudes to science will provide a firm foundation on which the junior high program can be based.

By the end of grade 3, students would be expected:

- (a) to make observations in the classroom and field situations and write them down in words and numbers as appropriate;
- (b) to classify on the basis of appearance (color, size, texture, shape) and similarities and differences (e.g., plant vs animal; living vs non-living; push/pull; roll/slide);
- (c) to use numbers obtained by counting, in data tables, and to compare measurements;
- (d) to measure length, volume, temperature, and time in SI Metric units;
- (e) to communicate by speaking, writing sentences, line diagrams, simple charts and bar graphs;
- (f) to draw simple inferences from experimental work and field observations.

By the end of grade 6, students would be expected:

- (a) to make quantitative and qualitative observations and record them in chart form, graphically, or in writing;
- (b) to classify on the basis of schemes which have been developed by using real specimens or have been derived from their study; e.g., animals as insects, amphibians, mammals, etc.; plants as flowering, woody, non-flowering, grasses, etc.;

- (c) to use numbers: as measurements, to compare, to make graphs and calculations related to experiments;
- (d) to measure length (area, volume), liquid volume, time, angles, temperature;
- (e) to use communication skills effectively in speaking, writing descriptive paragraphs, preparing diagrams, drawings, graphs, charts, data tables, and in reading directions for doing experiments and understanding suitable resource books
- (f) to experiment by following directions and being able to design simple experiments so that outcomes can be predicted and verified; explanations can be made for the results observed; the data are interpreted logically; variables are recognized and controlled individually; and suggestions for further experiments are made.

Detailed program planning in elementary science is to be undertaken within the school, or school system with reference to the teaching guide to provide a program suited to facilities, equipment, and resources at hand, including outdoor environments. Children should be introduced to a core of topics from the biological, geological, and physical sciences in each year, and there should be sequence in the topic development. Through the use of school library resources, students will be able to develop the learning skills of finding, organizing, analysing and applying information in a critical and objective manner.

RECOMMENDED TOPICS

PRIMARY GRADE

Provision of concrete experiences which teach the skills of observing, classifying, measuring, and communicating, such as growing plants and caring for animals, nature walks, and engaging in discussions and activities which demonstrate such concepts as up/down, near/far, fast/slow, push/pull, roll/slide, and living/non-living.

GRADES 1 AND 2

- | | | |
|-------------|---|--------------------------------------|
| <i>Unit</i> | 1 | — Using The Senses and Classifying |
| | 2 | — Properties, Measurement and Change |
| | 3 | — Organisms - Seeds and Plants |
| | 4 | — Animals |
| | 5 | — Water and Air |
| | 6 | — Moving Things |

GRADES 3 AND 4

- | | | |
|-------------|---|--|
| <i>Unit</i> | 1 | — Plants |
| | 2 | — Identifying Substances (Mystery Powders) |
| | 3 | — Measurement and Motion |
| | 4 | — Rocks and Soil |
| | 5 | — Living Things and Environments |
| | 6 | — Heat |
| | 7 | — Sound |
| | 8 | — Magnets |

GRADES 5 AND 6

- Unit* 1 — Communities of Living Things
2 — Life Cycles of Plants and Animals
3 — Chemical and Physical Change
4 — Electricity
5 — Changes in the Earth
6 — Weather
7 — Weight, Volume, Buoyancy
8 — Communication
9 — Forces and Their Effects
10 — The Solar System and Beyond

Junior High (Grades 7-9)

At this stage of development, students should become familiar with concepts in biological, chemical, geological, and physical science, and in addition they should have developed the related study, reading, writing, and mathematics skills. The emphasis of the junior high science program is on attitude and skill development.

GRADE 7

Core Topics: characteristics of living things; chemistry of solutions; force and motion; and land formation and change.

Optional Topics: science fair; energy; agriculture; heat; wise use of the forest; local option.

GRADE 8

Core Topics: diversity of living things; the crust of the earth; magnetic and electrical forces; chemical changes.

Optional Topics: science fair; energy; work and energy; heat transfer; science in fishing; local option.

GRADE 9

Core Topics: environmental science; chemical modelling of molecules; density and pressure; current electricity; and introduction to light or sound.

Optional Topics: science fair; energy; weather (as applications of density and pressure); ocean science; local option.

GRADE 7-9 ADJUSTED SCIENCE

The adjusted program has been provided for students who are experiencing difficulty in the regular science program. The adjusted program reflects the overall goals of the regular science program with particular emphasis on communication and mathematical skills and on developing curiosity and a sense of wonder; encouraging an understanding of the uses of science in everyday life; and an appreciation of the environment. The methodology which is recommended includes laboratory work, field trips, films, and selecting topics which are concrete and relevant to pupils' everyday experiences and interests. Less emphasis is expected on written resource material than in the regular science course.

Because there is a need for a flexible approach to the topics taught and the kind of texts which are useful to a particular class, no one textbook will be found to be satisfactory for all

students. Materials such as the *Elementary Science Study* or *Schools Council 5-13* will provide the activity oriented approach, a broad range of topics, and the emphasis on skill development which is appropriate for students in the adjusted program.

Suggested Topics

Year 1: Insects or plants, personal hygiene, snow and ice, states of matter, measurement, weather, weathering and erosion.

Year 2: Trees, microscope or microprojector work, brine shrimp, electricity and magnetism, solutions and crystals, sound, rocks and minerals, earthquakes and volcanos, space travel.

Year 3: Pond, stream, or seashore study; aquarium or terrarium study; carbon burning and fuel; simple machines; chemistry of foods; history of the Earth.

Senior High (Grades 10-12)

At the end of junior high school, students will have had broad experiences in most areas of science. Concepts and generalizations based on laboratory and field investigations of non-abstract material will be understood. It remains for senior high science courses to broaden and deepen these concepts and, in addition, to provide theoretical and abstract explanations for phenomena which have been investigated only in concrete terms before.

Through the use of textbooks and the school library resources, students will be able to develop the learning skills of finding, organizing, analysing and applying information in a critical and objective manner.

HIGH SCHOOL SCIENCE COURSE OUTLINE

Students planning to enter science related courses in university will require mathematics to the grade 12 level and should take, in order of priority, PHY 441 (541); CHE 441 (541); BIO 441 (541). Oceanography and geology are planned for students who wish extra courses beyond the minimum required for this purpose or students not planning to do further work in science in university or technical schools.

Physical Science 421 has proven to be a very useful course in many high schools. It is not intended, however, that it replace BIO 421 as the usual course for grade 10 students.

BIOLOGY 221 (BIO 221)

This course is provided for students who do not require a science credit for university entrance. More emphasis is placed on the practical applications than on the theoretical aspects of biology. In addition to basic biological concepts, science skills and environmental concerns will be included. Laboratory exercises, field trips, and projects are an integral part of the course.

Topics required: an introduction to biology and science; environmental biology; cellular biology; diversity among living things; human biology. Optional topics are: investigation of vocations having a biological orientation; marine biology; microbiology; agriculture; forestry; animal behavior.

BIOLOGY 421 (BIO 421)

Biology is important for all students. It satisfies students' curiosity about themselves and can be highly motivating. Field trips are an essential part of this course. Biology 421 uses the environment as a relevant point of departure. It stresses the importance of the environment. This course provides an introduction to the knowledge and skills needed for further work in science and in biology. A broad overview of representative topics in biology is included.

Some of these topics are: characteristics of life; ecology; the structure and function of the cell; the simple organisms — monera, protista and fungi; structural diversity of plants; invertebrates; and an introduction to human reproduction.

BIOLOGY 521 (BIO 521)

Biology 521, the honors program, will contain the same topics as Biology 421. The honors program is more investigative than the regular biology course, includes more student projects, and is restricted to selected, highly motivated, very able students. The content selected for inclusion in the course must include material that is more challenging and difficult than the Biology 421 course. A project which includes a literature survey, original laboratory investigation and formal presentation is an integral part of the course.

BIOLOGY 441 (BIO 441)

Recommended Prerequisites: Biology 421 or 521;
Chemistry 431 or 531

This course is a continuation of Biology 421. Students may elect to take it in the second year of high school; however, it is recommended that all students who plan to enrol in this course be encouraged to take Chemistry 431 previously or concurrently.

Human anatomy is included in this course because of its importance to all students. It is expected to assist students in learning the biological knowledge on which a healthy life can be lived as well as providing a topic which is interesting and motivating.

Topics include: cell, chemistry and physiology; the tissue structure of vascular plants; genetics; comparative vertebrate anatomy; human anatomy and physiology.

BIOLOGY 541 (BIO 541)

Recommended Prerequisites: Biology 421 or 521;
Chemistry 431 or 531

Biology 541 is a logical follow-up to Biology 521, although the honors course is not considered a prerequisite. The characteristics of the course and the students who should be enrolled in it are described under Biology 521.

Because these students are more able and more highly motivated than regular students, a high level of work is expected. The topics listed in Biology 441 will be studied as well as other topics in biology of interest to the students and their teacher.

CHEMISTRY 431 (CHE 431)

Recommended Prerequisite: Physical Science 421, if available

The high school program is divided into two courses, Chemistry 431 and Chemistry 441. The Chemistry 431 course introduces students to science through chemistry in a way that will provide both a worthwhile and interesting terminal course and a foundation for future study. The more rigorous material required for students taking post-secondary chemistry is reserved for Chemistry 441. Organic chemistry is included in this course because it is relevant to students' interests and because it is required for students taking Biology 441 in grade 12.

Topic: matter; a particle model of the atom; the periodic table; electronic structure of the atom; chemical bonding; nomenclature, formulas, balancing equations; and an introduction to organic chemistry.

CHEMISTRY 531 (CHE 531)

Recommended Prerequisite: Mathematics 421

Chemistry 531, the honors course, is based on an investigative approach to studying chemistry. It emphasizes chemical principles rather than descriptive chemistry and the relationship between experiment and theory and the significance and capabilities of scientific activities. The content of this course does not parallel the content of Chemistry 431 and students who take CHE 541 after CHE 431 will need to review the topics that were missed.

Topics included are: the concept of the atom; chemical reactions; the gas laws; liquid and solid phases; solutions; the periodic table; the structure of the atom; and an introduction to chemical bonding.

CHEMISTRY 441 (CHE 441)

Recommended Prerequisite: Chemistry 431; Mathematics 421; Physical Science 421 is recommended, if available

This is a continuation of Chemistry 431. It is designed to provide students with the necessary background to study further chemistry successfully.

Topics included: a review of Chemistry 431; the gas phase; solutions; energy: chemical and nuclear; chemical kinetics; chemical equilibrium; acids and bases; and oxidation and reduction.

CHEMISTRY 541 (CHE 541)

Recommended Prerequisites: Chemistry 531; Mathematics 431 or 432

This is a continuation of the Chemistry 531 course. In addition to the topics listed below, a research project of the student's choosing will be included. The project must include laboratory investigation and formal presentation, preferably at a science fair. In addition, if time permits, additional topics of interest to students and their teacher may be included.

Topics: thermochemistry; reaction rates; chemical equilibrium; acids and bases; oxidation and reduction; structure of molecules; organic chemistry; nuclear chemistry; and the research project.

GEOLOGY 241 (GEL 241)

This course emphasizes the science of geology and completes the sequence of high school completion courses in science which includes Biology 221 and Physical Science 231. It aims to explain the Earth to students using the expertise and knowledge of geologists. This explanation includes discussions of mineral and energy resources, the history and structure of the Earth and the changes it undergoes, and an introduction to economic geology and its effect upon the environment. The biology, chemistry, and physics learned previously will be reviewed as necessary and incorporated into this course.

GEOLOGY 441 (GEL 441)

This course contains a balanced survey of the various aspects of the subject. Considerable emphasis will be placed on Canadian and Nova Scotia environments.

Topics include: composition of the crust — minerals, rocks, chemical composition, volcanos, weathering, mineral resources; erosion — downslope movement, rivers, wind, glaciers, shorelines, ground water; internal processes — earthquakes, continents, oceans, plate tectonics; Earth history including reference to the solar system.

OCEANOGRAPHY 331 (OCE 331)

Suggested Prerequisite: Biology 421 or Biology 221

This course provides an integrated approach to science, using the ocean as its theme and source of practical examples. It is useful only to schools which are located close enough to the ocean to have ready access to it. It is not recommended for students planning to enter university unless they are also intending to complete chemistry, biology, and physics courses; rather it is designed as an introductory course in oceanography in which aspects of

geology, physics, chemistry, and biology are studied. Application of oceanography to chosen topics of current interest are included (e.g., the fishery, aquaculture, off-shore oil exploration, tidal power). A student handbook, available at the School Book Bureau, includes laboratory procedures and student notes.

It is essential that appropriate field trip and laboratory investigations be included in the program for each of its aspects.

PHYSICAL SCIENCE 421 (PHS 421)

The aim of this course is to prepare students for high school chemistry and physics courses by developing the scientific and mathematical skills required. It is inquiry-oriented and requires the use of a laboratory-classroom and equipment which, while simple, will be required in some quantity. This course is not intended to replace Biology 421 as the usual science in grade 10, but is provided in addition to it for schools where the need for it has been identified.

Core topics: science and scientific methods; measurement — principles and techniques; graphing; volume, mass, and density. Optional topics: heat; motion; Boyle's and Charles' laws; radioactivity; light. Throughout, emphasis is placed on the development of positive attitudes to science, self-confidence, and the understanding and application of scientific principles and techniques. *Any overlap with the content of the Chemistry 431 and Physics 431 courses is to be avoided.*

PHYSICAL SCIENCE 231 (PHS 231)

This course is designed to be a terminal course in physical science. Emphasis is placed on the chemistry and physics which can be readily illustrated by common phenomena and which will provide a basic understanding of these sciences as used in the home and in vocations. Emphasis on unnecessary terminology or abstractions is to be avoided. Much of the material will be science applied to familiar phenomena. The listing of core and applied topics will facilitate flexibility in course planning.

Topics include: chemistry; heat; electricity; mechanics; and sound. To meet the goals of the course, it is necessary to incorporate extended laboratory time and to utilize field trips, resource persons and other available resources.

PHYSICS 431 (PSY 431)

Recommended Prerequisites: Mathematics 421

Suggested prerequisites: Physical Science 421, if available

The importance of physics as a basic science must be stressed and all students should be encouraged to study it as a basis of further academic or vocational work as well as a means of better understanding the world around them. It is essential to further work in chemistry and geology and to an increasing extent is needed in biology.

Success in physics requires an ability to understand and apply mathematical concepts. Teachers must be sensitive to the problems which some students face in this regard and assist them, particularly at the beginning of the course.

Topics to be included: light; sound; heat; linear kinematics.

PHYSICS 531 (PHY 531)

Recommended Prerequisite: Mathematics 421

Suggested Prerequisite: Physical Science 421, if available

This honors level course is based on the PSSC Physics material. In this material, "physics is presented not as a mere body of facts, but as a continuing process by which men seek to understand the nature of the physical world." It involves closely related laboratory work and videotapes.

Required topics: how light behaves, reflections and images, refraction, the particle model of light, introduction to waves, waves and light, interference, light waves, motion along a straight line path, vectors, Newton's Laws of Motion, motion at the Earth's surface.

PHYSICS 441 (PHY 441)

Recommended Prerequisites: Physics 431 or 531
Mathematics 431 or 432

This is a continuation of the Physics 431 course.

Topics: mechanics (continued); electricity; modern physics.

PHYSICS 541 (PHY 541)

Recommended Prerequisite: Physics 531; Mathematics 431 or 432

This is a continuation of the Physics 531 course.

Topics and laboratory investigations: universal gravitation and the solar system; momentum and the conservation of momentum; work, power, energy; kinetic energy; some qualitative facts about electricity; Coulomb's Law and the elementary electric circuits; the magnetic field; electromagnet induction and electromagnetic waves; the Rutherford atom; photons; atom and spectra; matter waves.

Social Studies

Teaching Guides

Social Studies for Elementary Grade Levels (No. 77, 1981)

Junior High Social Studies (Grades 7 & 8) (No., 1988)

+Maritime Studies (Grade 9)

Adjusted Program (Academic), Social Studies (No. 63, 1980)

*History: Grades 7-12 (No. 7, 1976)

Modern World Problems (No. 10, 1976)
Sociology 341 (No. 14, 1978)
Economics 11, 12 (No. 15, 1978)
Canada Studies 10 (No. 17, 1979)
Political Science 12 (No. 27, 1978)
Geography 10-12 (No. 39, 1979)
Law in High School (No. 10, 1978)

*Only grades 10-12 are applicable.

+Planned for publication in 1988.

Program and Course Descriptions

Elementary (Primary- Grade 6)

The elementary level social studies program combines local, national, and global components and provides both for studies of those elements familiar to the students — home, school, neighborhood, community — and for studies of other homes, neighborhoods, communities, and regions in Canada and elsewhere. A multi-spiral approach provides the national and global aspects needed to help the students understand the interdependence of all peoples.

The program is based on the concepts of identity, socialization, environment, change, resources, human needs, institutions, interdependence, values, and decision making, which lead into generalizations. Four basic groups of attitudes — self-awareness, respect for others, awareness and acceptance of uncertainty, respect for the natural environment — are a part of the total social studies program at the elementary level.

The program is not just geographically and historically oriented, but also includes aspects of sociology, anthropology, economics and political science. The affective and psychomotor domains are emphasized as well as the more traditional cognitive aspects and the program is designed to develop students to higher levels of each of these domains.

The work of each grade level is divided into a number of units, with objectives, suggested activities, skills, and resources (identified for the various units).

The themes, with their unit titles, are:

Primary Orientation

- Unit I — Who am I?
- Unit II — What is my school like?
- Unit III — Who are the members of a family and how do they help each other?
- Unit IV — What is a neighborhood?
- Unit V — Why do we need rules?

Grade 1 — Families

- Unit I — What is a family?
- Unit II — What are basic and human needs and how are they satisfied?
- Unit III — What is my school like?
- Unit IV — Who are the people in my neighborhood and other neighborhoods?
- Unit V — Why are rules needed?

Grade 2 — Community/Communities

- Unit I — What is a community?
- Unit II — How do people in a community earn their living?
- Unit III — How do people "belong" to a community?
- Unit IV — How do people and communities celebrate special days/holidays?
- Unit V — How do communities depend on each other?

Grade 3 — Canadian Communities

- Unit I — What is a community? (continuation)
- Unit II — What are the basic map and globe skills?
- Unit III — How are Canadian communities similar to and different from each other?

Grade 4 — People and Their Changing Environment

- Unit I — How do we learn about the past?
- Unit II — How have some communities changed?
- Unit III — How do changes in technology change society?
- Unit IV — How have transportation and communication changed through time?
- Unit V — How have roles and values changed over the years?
- Unit VI — What is pollution, and how does it affect us? (OPTIONAL)

Grade 5 — Canada and the World's People

- Unit I — What are some of the main physical features and political divisions of Canada and the world?
- Unit II — Who were some of the explorers and where did their explorations take them?
- Unit III — What is life like in selected areas of the world?
- Unit IV — What are some of the factors which influence population?
- Unit V — What are some of the ethnic/cultural groups in Canada?

Grade 6 — Nova Scotia (and Atlantic Canada)

- Unit I — Who were the first known inhabitants, and how did they use the environment to meet their needs?

- Unit II — Who were the early European explorers of Atlantic Canada, and why were they important to the Europeans?
- Unit III — Why did European people settle and fortify Nova Scotia (and Acadia)?
- Unit IV — What is meant by multiculturalism and why is it of interest and value to us in Nova Scotia?
- Unit V — How has the physical environment influenced the way people lived and are living?
- Unit VI — What is meant by "service industry" and how important are these industries to Nova Scotia?
- Unit VII — What is meant by "government" and why do we have government? (OPTIONAL)

Development of the units calls for integration with language arts, music, physical education, health education/growth and development, mathematics, and other subjects. The use of community resource people for many units, especially for units involving the culture of ethnic groups, is recommended.

Evaluation is carried out on a daily basis through pre-tests before and during units, and post-tests after units, and, more importantly, on observation of individual and group work in classroom projects, field trips and other research; in discussion, and in reports, in writing, drawing, models, etc.

Junior High (Grades 7-9)

The content of the junior high social studies program for grades 7 and 8 focusses on Canadian history, Canadian/North American geography and municipal and provincial government. The program develops the skills and perspectives of each of these social studies disciplines.

An integrated social studies program is offered in grade 9 through the new Maritime Studies course. A political science unit in this course completes the three-year civics strand with a look at government at the federal level.

Throughout the junior high social studies program students expand their knowledge of facts and understanding of concepts. They should also expand and develop their range of skills, particularly those of thinking and reasoning. They should have opportunities to examine attitudes and values. Students should leave junior high with a clearer understanding of the different perspectives from which society is examined by the social studies disciplines. They should understand the relationships which exist between these disciplines. They should understand the process of cause and effect, the role of and sources for research, the distinction between fact and opinion.

Social studies teachers share, with all their colleagues, the responsibility of helping students to develop their study and language skills, including reading, writing, speaking, and listening.

GRADE 7 SOCIAL STUDIES

The geographical setting of this year is the northern hemisphere with the principal focus being on the North

Atlantic and Eastern North America. The historical component encompasses the period stretching from the peopling of North America to the Canadian Rebellions of 1837. The civics unit deals with Municipal Government.

The units in this program include: Introduction to Social Studies; Geographical Skills to Study North America; Early Peoples in North America; The Far North; The Arrival of the Europeans — Early Explorers; Early French Settlements; Saint Lawrence — Ottawa Lowland; Early English Settlements; When Empires Collide; British in North America After 1763; The Great Lakes Lowlands; The War of 1812 (optional); The Great Migration; The Near North; Municipal Government; Responsible Government.

GRADE 8 SOCIAL STUDIES

In this year, the geographical component expands to include the entire North American continent. The historical content embraces Canada in the period from 1837 to the present. Government at the provincial level is the focus of the civics unit.

The 13 units in this program include: Broadening the Horizon; The Evolution of Responsible Government; Confederation; Western Expansion; Agricultural Development in the West; World War I; Between the Wars; Industrialization and Urbanization; World War II and Its Aftermath; Provincial Government; Key Political Events and Personalities (beginning 1949); Becoming a Multicultural Nation; Selected Economic, Social and Cultural Changes (optional).

GRADE 9 SOCIAL STUDIES

Maritime Studies considers the post-1945 experience of New Brunswick, Nova Scotia, and Prince Edward Island. This social studies course has five interrelated units: The Maritimes — The Geographic Base; The Economy of The Maritimes; Life in The Maritimes — A Sociological Approach; Government and Politics in The Maritimes; Recognizing Ourselves — Culture in The Maritimes. Historical themes are found throughout the program. This range of views gives students opportunities to examine critically the circumstances of the region.

Maritime Studies provides opportunities to explore a wide range of social studies disciplines. The emphasis on skills in the junior high program is intended to provide a substantial basis for students entering the senior high social studies program.

SOCIAL STUDIES IN THE ADJUSTED PROGRAM

This three-year program consists of five basic units; Earth; Local Area; Atlantic Canada; Living in Canada; Living in North America; and seven subsequent units which build on the first five: World Cultures; 20th Century; Current Events; Consumer Education; Citizenship and Government; Mass Media; Headliners Past and Present.

A multi-disciplined, practical approach, both in terms of social studies (i.e., geography, history, economics, political science), and by integration within other disciplines (e.g., language arts, music, art, mathematics), is to be encouraged.

Senior High (Grades 10-12)

At this level, students have the opportunity to pursue in depth the following disciplines: history, geography, economics, sociology, political science, and law. One course, modern world problems, includes many aspects of these disciplines.

In the senior high social studies program, students must be given the opportunity to enlarge their body of knowledge and to continue to develop their range of skills. Through the independent use of libraries, of print, photographic, electronic and other media, students should be given the opportunity to pursue research projects which supplement the classroom experience.

History

The aims of the senior high history courses include: to acquaint students with a body of knowledge pertinent to a particular area of study; to pursue more thoroughly the nature of history thereby enhancing students' understanding of the discipline; to give students opportunities to experience the historian's craft; to help students appreciate the function of history in their own understanding of the world they live in.

CANADA STUDIES 321 (CAS 321)

This course provides students with the opportunity to examine contemporary Canada from a variety of viewpoints. Units include: Physical Environment, Pluralism, Political Life, Economic Life, Anglophone/Francophone Relations, Canadian/American Relations, Canada and the World, Canadian Culture. Generally, the course will provide an overview of certain aspects of Canadian life, but studies on a wide range of issues and questions are included.

HISTORY 421 — ANCIENT/MEDIEVAL HISTORY (HIS 421)

This course allows students the opportunity to develop an understanding of the concept of civilization through the examination of the origins of civilization and a comparison of the various civilizations which have shaped the nature of the modern world. There are six broad chronological divisions in the course: (1) The Evolution of Man, Social Animal; (2) The Birth of Civilization (Mesopotamia, Egypt, China, etc.); (3) Greece, The First Western Civilization; (4) Rome, Ruler of the Ancient World; (5) The Middle Ages; (6) The Renaissance and Reformation. Each of these divisions can be considered from a number of points of view, including geography, archaeology, society, language, religion, politics. Major themes could be developed spanning the broad chronological period; for example, agriculture, development of government, religion, revolutions. A study could also be made of (1) The Emergence of Civilized Man; (2) The Emergence of the First Western Civilization; (3) The Evolution of Western

Civilization; (4) The Emergence of European Nations; (5) Development of Renaissance Man.

HISTORY 431 — HISTORY OF WESTERN EUROPE (HIS 431)

This course covers the period from the sixteenth century (slightly overlapping the Ancient/Medieval History course) up to present day (without going into too much depth on modern world problems). Because of the flexibility of the grade 10 course, teachers should provide whatever background is necessary (i.e., key developments in later Middle Ages) to bring the students to a reasonable starting point for this course.

The themes of the course — absolutism, revolution, ideology, conflict — can be traced chronologically or can be considered in the light of specific geographical areas.

HISTORY 231 — 20TH CENTURY WORLD (HIS 231)

This course should focus on significant events in the world in the present century with related historical aspects included where required in order to give proper background and focus to these events.

Events involving many areas of the world (e.g., World War I, the Depression), as well as events and topics involving selected areas (e.g., emerging countries in Africa), should be included.

HISTORY 441 — HISTORY OF NORTH AMERICA/CANADA (HIS 441)

At present, teachers have a choice of four different approaches to this course: (1) a survey course on North American history; (2) Canadian-American relations (which is a more selective way of studying North American history); (3) Canadian history from the centralist point of view (usual approach to Canadian history); (4) Canadian history from a Maritime perspective (allows for a more detailed look at Maritime development and influence).

Emphasis should be placed on the political, constitutional and selected military aspects of Canadian history, without ignoring economic, social and cultural aspects. Selected topics currently important in Canada (e.g., the constitution, Canadian unity, Quebec) should be given careful consideration.

HISTORY 241 — CANADIAN HISTORY (HIS 241)

This course should build on the Canada Studies course. It should consider the social, cultural, and selected economic aspects of Canadian history. Selected political, constitutional, and military aspects should also be considered, according to the needs, interests, and abilities of the students.

Related aspects of American history should be included, as well as Atlantic Canada's role in Canadian events. There should be a balance of topics between the pre- and post-confederation periods.

Geography

GEOGRAPHY 421: ENVIRONMENTAL GEOGRAPHY (GEO 421)

The aim of this course is to develop awareness of the processes that have contributed and continue to contribute to the shaping of our physical environment, both at the local level and across the globe. It also serves to illustrate the close relationship between people and their environment, and emphasizes the significance of the effects of human activities.

Although theoretical explanations of physical processes will be stressed, laboratory work in the form of map usage, plotting, graphing, aerial, and ground photo studies should be an essential part of this course. Field trips are also considered to be very important for giving students first-hand knowledge of key geographical features and the relation of people to them.

GEOGRAPHY 221: ENVIRONMENTAL GEOGRAPHY (GEO 221)

This course, although similar in many respects to Geography 421, places greater stress on basic geographical techniques and skills and on field work and the local environment. The course also lays greater stress on the consequences and implications of the physical processes as they affect people. Theoretical explanations of the physical processes should be kept to a minimum.

GEOGRAPHY 321: GEOGRAPHY OF ASIA (GEO 321)

This course should provide students with an understanding of the geographical and climatic features of Asia, and a knowledge of the way people live and earn their living. Units include: Soviet Union and Mongolia; Southwest Asia (Middle East); South Asia (Indian Subcontinent); East Asia (China and Japan); Southeast Asia.

GEOGRAPHY 431: CANADIAN GEOGRAPHY (REGIONAL AND THEMATIC) (GEO 431)

This course covers contemporary Canadian geography with its many regional and cultural diversities, and includes a systematic examination of such general characteristics as Canada's vast area, its northern character, limitations imposed by the climate, potential economic development, and Canadianism. In the first half of the course, Canada is studied both in the context of its continental North American setting and through its component regions and sub-regions. The second half will provide a thematic treatment of such topics as pollution, urbanization, resource development, changing technology, rural life.

A prior knowledge of the physical environment of Canada will greatly help students taking this course.

GEOGRAPHY 231: GEOGRAPHY OF CANADA (REGIONAL APPROACH) (GEO 231)

This course is designed to give students an image of Canada which depicts its wide variety of natural and cultural landscapes, while at the same time giving the students an

understanding of the "Canadian identity" which makes Canadians different from people in other areas.

Regional units to study are: The Atlantic Region; The Great Lakes — St. Lawrence Lowlands; The Canadian Shield; The Continental Interior; Western Mountains and Coasts; The Far North. Local field work and research are an important part of this course.

GEOGRAPHY 441: SETTLEMENT GEOGRAPHY (GEO 441)

The aim of this course is to increase the pupil's understanding of the spatial organization of urban and rural settlement and settlement systems, and to understand how these evolved, and will continue to evolve, both inside and outside Canada. It also aims to show students that order exists in human-environment relationships; how historical developments have influenced settlement patterns; and what impact urbanization processes have had and continue to have upon rural areas. Units include: Urban Settlement, Rural Settlement, Rural-Urban Interaction, Community Analysis and Planning, with special emphasis given to Atlantic Canada.

A prior knowledge of both physical geography and the geography of Canada is desirable for studying this course.

Economics

ECONOMICS 331: CANADIAN ECONOMICS (ECO 331)

This course begins with a general study of the economy of the local community; leading into selected aspects such as important private firms, important occupational groups, local unions, three levels of government, government spending, taxation; and expanding to the provincial and regional economy, to consider primary, secondary and tertiary industries. Distribution of wealth and power, labor movement, free enterprise, crown corporations, taxation, economic ties with the world are also considered as parts of the Canadian economy. Various economic principles, issues, and theories which affect the lives of students are included.

ECONOMICS 441: NATIONAL/INTERNATIONAL ECONOMICS (ECO 441)

This course, an extension of Economics 331, provides for a deeper study of selected economics issues as well as consideration of certain theories. The unit on microeconomics considers such topics as demand and supply; product differentiation; production; markets. Macroeconomics considers national accounts; economic indicators and government policy; money, banking, and finance; economic growth. There are also three optional units: history of economic ideas; international economy; and comparative economics.

It is recommended that students wishing to take this course take Economics 331 first.

Modern World Problems

MODERN WORLD PROBLEMS 341 (MWP 341)

This course can be approached from several different points of view, with the development of intelligent discussion on current world problems being the major aim. Topics for consideration would be prejudice, development, "hot spots," the United Nations, developing countries, revolt and revolution, sovereignty and territorial rights, NATO, the Warsaw Pact and the arms race, multinational trade blocs, energy, the New Economic Order.

A number of other topics could also be considered, but the depth of coverage and emphasis would depend on whether or not courses in urban geography, law, political science, sociology and/or ecology were taught. These might include urban development and planning, courts and punishment, comparative government, elections, poverty, ecology.

Political Science

POLITICAL SCIENCE 441 (POS 441)

This course is a three-part course with Part 3 being optional. Part 1 develops an understanding of the concept of politics, Part 2 develops Canadian politics in its many aspects, Part 3 develops a comparative study of democracy and totalitarianism. Part 3 should only be taught to students who have gained a good understanding of their own system of government.

This course should be available to third-year students, and may include second-year students at the discretion of the teacher, principal, and guidance counsellor.

Sociology

SOCIOLOGY 341 (SOC 341)

This course is designed to give an understanding of the basic aspects of sociology to allow for in-depth studies in Canadian sociological issues, and to allow for active participation of the students in a local community/sociological project. Canadian sociological issues which might be considered are the family, students and schools, poverty, minority groups, women in society, labor and management, conflict, crime in Canada, punishment and rehabilitation, the future.

The course should be available to third-year students, and may include second-year students at the discretion of the teacher, principal, and guidance counsellor.

Law

LAW 341 (LAW 341)

The Canadian law course is designed to provide students with (1) a knowledge of law and its function in society, and (2) the attainment of skills and attitudes that will enable students to understand the process of law. Topics include: the Canadian legal system, crimes and crime control, injuries and wrongs, human rights, property rights, promises and agreements, business relations, family relations, courts and trials.

The course should be available to third-year students and may include second-year students at the discretion of the teacher, principal, and guidance counsellor.

Les écoles acadiennes

Les buts de l'école acadienne

Toute école publique de la province a la responsabilité de travailler auprès des jeunes, les assistant dans leur formation afin qu'ils puissent vivre à l'aise dans la société, non seulement plus tard mais aussi durant leurs années à l'école, y jouissant d'une participation active et satisfaisante. Il est important qu'ils puissent se préparer à jouer des rôles de citoyens responsables, en développant à leur plein potentiel les qualités et les compétences dont la société a besoin.

Le rôle distinctif de l'École Acadienne en Nouvelle-Écosse est:

- (a) de contribuer au maintien et à l'avancement de la langue française et de la culture des Acadiens dans la Nouvelle-Écosse;
- (b) d'aider les Acadiens de la Nouvelle-Écosse à jouir pleinement de leurs droits en matière linguistique.

Les buts spécifiques

1. Développer les habiletés de communication orale et écrite en insistant sur la clarté et la précision dans l'emploi du français langue première et de l'anglais.
2. Développer une connaissance et une appréciation de l'identité acadienne sous toutes ses formes.
3. Développer les habiletés nécessaires en arithmétique et une connaissance des principes de base des mathématiques.
4. Développer une connaissance et une compréhension de l'histoire, surtout de l'histoire du Canada (y compris l'histoire des Acadiens) en sorte que les élèves deviennent conscients de leur patrimoine et de la diversité culturelle de leur pays, ainsi que des rapports qu'a le Canada avec les autres pays, afin de leur permette de porter jugement sur les valeurs contemporaines.
5. Développer les habitudes et les méthodes de la pensée critique et cultiver le désir naturel de s'instruire et de comprendre.
6. Développer des connaissances, des habitudes, des attitudes, ainsi que le sens des responsabilités et des valeurs, afin que les élèves acadiens puissent participer pleinement à la vie de la société et qu'ils puissent aspirer à y contribuer dans tous les domaines et à tous les niveaux.
7. Offrir aux élèves, à l'intérieur des programmes et des activités scolaires, l'occasion:
 - (a) d'exercer la créativité en encourageant l'originalité et l'imagination;
 - (b) de stimuler leur curiosité et de développer une connaissance et une appréciation de soi, de ses semblables, de son environnement, et des rapports entre ces trois.

- (c) d'acquérir des habitudes, des attitudes et des habiletés intellectuelles qui leur seront utiles, tant pour l'entraînement à un emploi que pour l'exercice d'un emploi;
- (d) de développer des connaissances, des habitudes et des habiletés qui leur permettront de jouir d'une bonne santé et d'une bonne condition physique;
- (e) de développer la responsabilité civique, sociale et morale.

La langue d'instruction

Élémentaire

De la maternelle à la sixième année toutes les matières sont enseignées en français, sauf le cours d'anglais qui est introduit au début de la troisième année.

Secondaire, Premier cycle

À ce niveau (7e à 9e) les élèves suivront un minimum de dix (10) cours en français avec au moins trois (3) cours en français par année scolaire.

Secondaire, Deuxième cycle

À ce niveau (10e à 12e) les élèves suivront un minimum de huit (8) cours en français avec au moins deux (2) cours en français par année scolaire.

N.B.: Le nombre de cours qui doivent être suivis au secondaire, premier et deuxième cycle, accorde une proportion raisonnable de temps à l'enseignement en français et en anglais; toutefois, si une commission scolaire juge qu'il lui serait possible d'offrir un plus grand nombre de cours en français, soit au premier ou au deuxième cycle du secondaire, elle peut le faire pourvu que cette décision soit acceptable à la communauté desservie par l'École Acadienne.

Les services personnels aux élèves

Les services d'orientation et de consultation sont nécessaires au bon fonctionnement d'un système scolaire. L'orientation au niveau du système scolaire est une partie intégrante du programme d'enseignement et de consultation pour tous les élèves et elle est planifiée et offerte conjointement par des enseignants(es), des administrateurs(trices), des conseillers(ères) d'orientation et autres.

Les objectifs de l'orientation sont basés à la fois sur les objectifs généraux et spécifiques de l'éducation dans les écoles. Par conséquent, les programmes d'orientation doivent donner l'opportunité aux élèves d'acquérir la connaissance, de développer des habiletés et d'établir des attitudes nécessaires pour:

- (1) se connaître, se comprendre et s'apprécier soi-même (formation personnelle);
- (2) avoir de bons rapports avec autrui (formation sociale);

- (3) développer des plans d'études appropriés (formation académique);
- (4) développer des plans de carrières appropriés (formation de carrière).

Une partie intégrante du programme d'orientation est l'éducation carrière. Elle a pour but d'aider les élèves à acquérir les connaissances et les habiletés nécessaires pour bien planifier des études et un emploi futurs.

Au niveau élémentaire, les services d'orientation sont surtout axés sur la connaissance de soi et le développement de bons rapports avec autrui. Ces services assistent les enfants à s'adapter à l'école et à développer une sensibilisation à la valeur du travail et à divers emplois dans leur milieu.

Au secondaire 1er cycle, les services d'orientation sont reliés de manière plus étroite à l'éducation carrière, qui comprend l'étape d'exploration:

- aider les élèves à développer des habiletés dans les processus de prise de décision et de résolution de problèmes;
- aider les élèves à développer des aptitudes à l'étude et à la répartition de leur temps;
- aider les élèves à atteindre des niveaux plus effectifs de planification personnelle et de prise de décision, toujours dans le contexte de leurs habiletés et intérêts, de leur personnalité et des choix d'éducation qui leur sont offerts;
- aider les élèves à apprécier la variété de carrières possibles et aussi les qualifications requises pour le succès dans ces carrières;
- aider les élèves à comprendre les rôles changeants des hommes et des femmes, et
- aider les élèves à profiter au maximum des activités d'enseignement de l'école.

Au niveau secondaire 2e cycle, les services d'orientation sont plutôt axés sur la préparation des élèves aux études postsecondaires et à l'entraînement pour le monde du travail. L'étape de préparation donne aux élèves une connaissance plus approfondie de l'utilisation des habiletés de prise de décision, déjà développées dans les phases antérieures du programme d'orientation. Ces habiletés aident les élèves à faire des choix d'études et d'emplois qui sont reliés à leurs intérêts, aptitudes, valeurs et habiletés.

NOMENCLATURE DES COURS

(Les cours listés aux les pages 25 et 26 peuvent être offerts en français, à condition que le matériel utilisé soit approuvé par le ministre de l'Éducation. Les cours listés ci-dessous sont décrits en français sur les pages qui suivent.)

Cours		Niveau première année	Niveau deuxième année	Niveau troisième année
Éducation physique	1. Éducation physique (EPH)	326	336	346
Français	1. Français (FRA)	226, 426	236, 436	246, 446
	2. Expression dramatique (EDR)	326	336	
Mathématiques	1. Mathématiques (MAT)	226, 426	437, 436	447, 446
Sciences familiales	1. Sciences familiales (SFA)	326	336	346
Sciences humaines	1. Histoire (HIS)	426	436	446
	2. Géographie (GEO)		326	
	3. Études du Canada (ECA)	326		
	4. Économie (ECO)		336	446
	5. Sciences politiques (SPO)			446
Sciences de la nature	1. Biologie (BIO)	226, 426		446
	2. Chimie (CHI)		436	446
	3. Physique (PHY)		436	446
	4. Sciences physiques (SPH)	426	236	

Les programmes des écoles acadiennes

Arts visuels et arts plastiques

Guides pédagogiques

Arts plastiques, M à 3e année (No 64, 1981)

Arts plastiques, 4e à 6e année (No 69, 1982)

Programme et description des cours

Maternelle à 6e année

L'expression au moyen des arts visuels peut se définir comme une réaction personnelle à l'expérience vécue ou imaginaire traduite par une forme ou une structure.

Les buts du programme sont d'aider l'élève à développer le goût du beau par la perception sensorielle et de l'amener à s'exprimer par divers média, de façon personnelle, spontanée et créatrice.

Comme objectifs à moyen terme, le programme vise à inciter l'élève:

- à réagir aux formes, aux événements et aux matériaux de l'environnement;
- à percevoir les éléments fondamentaux de l'expression artistique, tels que: la ligne, la masse, la forme, l'espace, la couleur, la texture;
- à mettre au clair et à exprimer des expériences et des sentiments personnels par des formes visuelles au moyen de divers média et à travers différentes activités comme le modelage, la construction, la peinture, le dessin, la sculpture, le tissage, l'imprimerie;
- à partager ses expressions visuelles et les rattacher en général au travail des autres personnes;
- à profiter de toutes les occasions, à tous les niveaux, pour intégrer les arts visuels et les arts plastiques aux autres disciplines.

Les activités en arts visuels et en arts plastiques devraient être adaptées le mieux possible aux besoins de l'élève en rapport avec ses expériences personnelles. L'élève profite davantage des activités d'apprentissage lorsque celles-ci sont étroitement liées à ses expériences quotidiennes et à l'apprentissage des autres matières.

Le guide pédagogique *Arts plastiques, M à 3e année* offre à l'enseignant une variété d'activités simples portant sur les lignes, les couleurs, les formes, la masse, les trois dimensions, les textures, les merveilles du papier, l'imprimerie, la peinture, la céramique, le personnage en mouvement et le bricolage.

Les activités décrites dans le guide *Arts plastiques, 4e à 6e année* sont destinées à des élèves un peu plus âgés et portent, en plus, sur le textile, la sculpture et différents genres de dessin.

Développement personnel et social

Le cours *Développement personnel et social* est un programme obligatoire de trois ans destiné à tous les élèves du niveau secondaire premier cycle (7e année à 9e année). Ce cours est basé sur les buts de l'éducation publique. Le programme permet aux élèves de développer les connaissances et les habiletés nécessaires à leur croissance personnelle et intellectuelle. Il est divisé en six unités: le moi, les sentiments, les rapports personnels, la planification d'une carrière, le développement de la personne et la prise de décision. Il traite des responsabilités, des comportements, du sens des valeurs, des rapports familiaux et des rapports avec ses pairs et autres. Les thèmes de prise de décision et de communication sont à la base de tout le programme.

7e année

Chaque composante du programme aide à développer chez l'élève, la compréhension des concepts suivants: le processus de prise de décisions et son application, la nature et l'importance des sentiments et des relations amicales, le rôle et l'influence de la famille, le concept de soi, le besoin de comprendre et d'accepter les stages et les niveaux de développement physique, social et émotif, l'importance de s'informer sur les choix possibles quant à la formation générale ou professionnelle et le choix de carrière, l'importance de planifier son avenir.

8e année

En plus d'approfondir les notions introduites en 7e année, les élèves de la 8e année doivent développer les habiletés requises pour mettre en pratique les notions suivantes: la maîtrise des sentiments, le processus de prise de décision, le développement d'une image positive de soi, la reconnaissance de l'influence que peuvent exercer les amis et les pairs, l'élaboration d'objectifs personnels pour l'avenir, l'acquisition du respect de soi et des autres - surtout en ce qui concerne la sexualité.

9e année

Le programme de la 9e année met l'accent sur le comportement personnel, la responsabilité, les conséquences de ses actions sur les autres, la nécessité de penser aux autres. Ceci doit faire partie de la compréhension et de l'acceptation que l'élève a de ses capacités intellectuelles, sociales, émotives et physiques. L'élève doit comprendre de quelle manière il/elle agit sur son environnement familial, social et communautaire.

Éducation physique

Guides pédagogiques

Éducation physique à l'élémentaire (No 80, 1983)

Suppléments

Éducation physique, M à 3e année (No 52, 1985)

Programme et description des cours

Le premier but du programme d'éducation physique dans les écoles de la Nouvelle-Écosse est d'aider les élèves à développer un style de vie actif qui pourra leur assurer une vie plus agréable au point de vue physique, mental, émotif et social. S'ils doivent demeurer physiquement actifs au cours de toute leur vie, ils leur faut acquérir les habiletés, les connaissances et les attitudes permettant de jouir et de bénéficier de l'activité physique. Pour y arriver il est important que les enseignant(e)s établissent une ambiance favorable à l'apprentissage à l'intérieur et à l'extérieur de la salle de classe, du gymnase et de l'école.

Un programme d'éducation physique bien équilibré tient compte des élèves, du choix d'activités physiques, de l'organisation administrative du programme et des méthodes d'évaluation.

L'équilibre du programme dépend de nombreux facteurs qu'influencent l'organisation et l'administration du programme. Parmi ces facteurs sont le personnel, l'horaire, les buts établis par l'école, les locaux et l'équipement disponible, les politiques de l'école et/ou de la commission scolaire, le transport, le budget, l'expérience vécue des élèves, les facteurs socio-économiques de la communauté, la grandeur de la classe et le groupement des élèves dans la classe d'éducation physique.

Maternelle à 6e année

De la maternelle à la 3e année, le programme cherche à développer les habiletés motrices perceptuelles prérequis à une coordination motrice plus complexe. L'accent est surtout sur les activités rythmiques et le jeu dramatique. Les habiletés en communication jouent un rôle prédominant dans toute expérience d'apprentissage et sont acquises en grande partie à travers les expériences personnelles de l'enfant, souvent dans le jeu. Lors des premières années scolaires, les enfants trouvent dans le mouvement un moyen efficace d'expression de soi et de communication.

Le programme d'éducation physique à ce niveau est réparti en cinq sphères d'activités: le conditionnement physique, la gymnastique, la rythmique, les jeux et les activités en plein air. Ce programme doit être intégré au curriculum de l'école élémentaire en sorte d'être relié de façon planifiée à d'autres aspects du curriculum.

Les élèves de ce niveau participent aussi à des *activités physiques quotidiennes*. Il s'agit d'un programme planifié de mouvement physique destiné à enrichir et non à remplacer le programme d'éducation physique. Le but est d'offrir aux élèves une occasion de participer à une variété d'expériences de mouvement physique qui peuvent promouvoir des attitudes positives envers la poursuite du bien-être personnel pendant toute la vie.

Au niveau 4-6 le programme d'éducation physique suit naturellement celui des années précédentes. Il cherche à développer davantage et à raffiner les habiletés, à valoriser la gymnastique éducative et à donner plus d'importance aux activités en plein air. Le jeu et les expériences relatives au mouvement continuent leur rôle important chez les enfants alors qu'ils s'acheminent vers la maturité.

Certains enfants auront à continuer le développement d'habiletés telles que l'équilibre, la coordination visuo-manuelle, la coordination visuo-pédestre et le sens du rythme. La journée à l'école présente d'excellentes occasions pour l'apprentissage moteur; il faut continuer les activités motrices pouvant aider les moins doués.

7e année à 9e année

Les élèves au niveau du premier cycle secondaire devraient arriver à comprendre la nécessité du conditionnement et de l'activité physiques pour assurer un corps sain. Le programme doit leur offrir l'occasion de maintenir et de développer l'endurance cardiovasculaire, la flexibilité, la force et l'endurance musculaire. Ils devraient pouvoir évaluer et interpréter les niveaux de leur condition physique et ensuite voir eux-mêmes au développement de leur condition. Les élèves devraient comprendre que les habiletés motrices de base peuvent être adaptées à une participation et, raffinées par cette participation, à des activités physiques spécifiques telles que courir, déplacer un objet dans l'espace en le bottant, le poussant ou le lançant. Les activités physiques devraient promouvoir une attitude positive chez l'élève et devraient lui rendre agréables l'instruction et les aspects intramurales et interscolaires du programme.

10e année à 11e année

Au deuxième cycle du niveau secondaire, les points d'intérêt sont le conditionnement physique, les habiletés en rapport avec les loisirs, le leadership et la nécessité de porter des changements à une vie sédentaire. Les cours avec crédit devraient motiver les élèves à vouloir développer un corps sain au moyen d'activités dont le but est le conditionnement physique. Tout en présentant un défi, le programme doit pouvoir procurer une satisfaction personnelle à divers niveaux de participation. Il faut prendre en considération les différences, les besoins et les aspirations de l'élève. Pour être efficace le programme doit promouvoir un estime de soi bienfaisant et procurer succès et plaisir. Outre ces aspects de l'éducation physique, le programme doit comprendre des activités intramurales et interscolaires organisées.

Le programme d'éducation physique au deuxième cycle devrait aider les élèves à comprendre la nécessité de l'activité physique pour le maintien d'une efficacité physiologique. Au cours de leurs dernières années à l'école, ils devraient pouvoir évaluer leur propre état physique et interpréter la signification des résultats des tests de conditionnement physique. Ceci fait, ils devraient pouvoir, avec l'aide de l'enseignant(e) d'éducation physique, établir et utiliser un programme de conditionnement physique. Un tel programme personnalisé peut aider à maintenir et à développer les niveaux de conditionnement désirables. Ils devraient pouvoir également développer les habiletés de base et les connaissances requises qui leur permettront de jouir des temps de loisir à l'extérieur de l'école.

ÉDUCATION PHYSIQUE 326 (EPH 326)

Dans les écoles qui offrent un programme de trois ans en éducation physique au niveau du deuxième cycle, le cours d'éducation physique 326 doit avant tout prévoir l'acquisition d'habiletés pour les activités d'équipe et de loisirs ainsi qu'un développement de leadership.

ÉDUCATION PHYSIQUE 336 (EPH 336)

Ce programme met l'accent sur les activités de loisirs dans la vie, en prévoyant un équilibre d'activités à l'intérieur et à l'extérieur. Le conditionnement physique ainsi que les habiletés de leadership restent prioritaires.

ÉDUCATION PHYSIQUE 346 (EPH 346)

L'accent doit être sur le conditionnement, les activités en plein air, les jeux individuels ou à deux personnes. Il faut encourager l'apprentissage et l'exercice d'habiletés de leadership.

Français

Guides pédagogiques

Le français à l'élémentaire, M à 6e année (édition de rodage, Nos 71 à 75, 1981)

Le jeu et l'expression dramatique à l'élémentaire (No 83, 1983)

Programme de français, 7e à 9e année (No 85, 1983)

Programme de français, 10e à 12e année (No. 91, 1985)

Expression dramatique, 7e à 12e année (1983)

Suppléments

Le roman, 7e à 12e année (No 14, 1978)

Une technique de présentation pour travaux écrits au secondaire (No 4, 1977)

Téléguide, Le monde des petits - français, M-3, pour élèves de langue française

Téléguide, Peinture et papier - français, 4e, 5e et 6e années, pour élèves de langue française

Programme et description des cours

Maternelle à 6e année

Le développement de l'aptitude à s'exprimer est d'une importance primordiale et déterminante dans l'évolution et l'épanouissement de l'élève en tant qu'individu. Le programme de français a pour but d'aider l'enfant à exprimer ce qu'il observe, ce qu'il ressent et ce qu'il pense. Toutes les activités du programme visent à l'inciter à communiquer clairement sa pensée aussi bien que ses sentiments; on se trouve ainsi à valoriser l'individu en affermissant le sentiment d'identité personnelle et d'ouverture à autrui.

En plus le programme de français vise à présenter l'apprentissage de la langue dans le cadre d'une pédagogie de la communication qui respecte l'intégration des quatre savoirs (écouter, parler, lire, écrire) dans un contexte de globalité selon l'approche psycholinguistique. L'enseignement de la langue doit tendre à faire le lien entre l'apprentissage de la langue, la vie de l'élève et la vie du milieu scolaire et communautaire de l'élève.

Ainsi l'apprentissage de la langue chez l'élève sera facilité s'il s'effectue à partir de sujets qui intéressent l'élève et qui débouchent sur des situations concrètes de communication.

Le programme de français repose sur les principes de base suivants:

1. Le *sens* que l'élève donne au langage oral et écrit est au centre du processus d'apprentissage.
2. Les divers *éléments* du langage sont inter-reliés et interdépendants et ne doivent pas être traités séparément.
3. L'apprentissage de la langue se fait à partir d'une *globalité* pour ensuite en étudier les particularités. La langue est bien plus qu'une série de sons, de syllabes et de mots liés ensemble. Souvent nous saisissons le sens d'un message avant d'en avoir analysé tous les éléments.
4. L'élève vient à l'école ayant déjà une certaine *connaissance* du monde qui l'entoure et du langage oral et écrit. Ce connu devient le fondement à partir duquel se continue l'apprentissage de la communication orale et écrite.
5. Les enfants apprennent une langue en *l'utilisant*; ainsi ils apprennent à lire et à écrire en lisant, en écrivant et en parlant et non uniquement à partir d'une longue série d'exercices isolés de pré-requis psychomoteurs.
6. Communiquer est un processus qui est favorisé par *l'interaction sociale* des élèves avec l'enseignant(e) ainsi que par les échanges des élèves entre eux.
7. L'élève améliore la qualité de sa communication en étant en présence de bons *modèles* à imiter.
8. Savoir *prendre des risques* dans le développement des quatre savoirs est essentiel au processus d'apprentissage d'une langue.
9. L'apprentissage de la langue doit être *partie intégrante* de toutes les autres matières scolaires.
10. L'enfant a besoin d'un *environnement* où il peut se servir de sa langue dans une variété de situations. Ainsi l'élève doit être mis en contact avec plusieurs genres de textes: informatif, expressif, ludique, incitatif, poétique.

L'usage du français correct doit donc être valorisé partout dans l'école et l'enseignement de la langue doit être intégré à toutes les matières scolaires enseignées en français. L'apprentissage du français s'échelonne sur toute une vie et se fait par étapes formelles au long de la scolarité.

Les objectifs de la maternelle sont essentiellement axés sur le développement de l'enfant dans ses relations avec lui-même, avec les autres et avec l'environnement; ils ne sont pas orientés vers des contenus de connaissances et de techniques spécifiques. En première, deuxième et troisième années, les notions élémentaires des habiletés à lire et écrire sont mises en place. En quatrième, cinquième et sixième années, ces habiletés sont développées davantage pour être ensuite raffinées au secondaire.

Afin d'amener l'enfant à parler un langage correct, il est nécessaire qu'il apprenne à écouter avec sensibilité et discrimination. Les exercices d'écoute forment une partie intégrante du programme de français. Il faut bien marquer

l'importance qu'on doit accorder à la lecture à haute voix par le professeur. Les textes choisis, plaisants par leur sujet et leur présentation, offrent un intérêt assez puissant pour éveiller chez l'élève un amour de la lecture qui est si nécessaire à son développement ultérieur. Ces lectures sont à la fois des périodes de détente et de réflexions qui devraient fournir à l'élève une occasion de s'exprimer oralement. L'aptitude à l'expression orale se produit lorsque l'élève est encouragé à exprimer ses propres idées, pensées et sentiments, en employant, dès le début, des structures correctes et des phrases complètes.

L'enrichissement du vocabulaire se fait par un système d'écoute et de répétition à un âge où l'élève est à l'initiation du langage. Il importe donc de 'faire parler' tous les élèves aussi souvent que possible. Le jeune élève accepte qu'on lui fasse reprendre son idée sous une forme correcte et vivante surtout lorsque la technique du vocabulaire est bâtie autour d'activités conformes à ses intérêts et l'encourage à la créativité. La participation à des jeux d'expression dramatique, de théâtre, et de marionnettes est un moyen pour développer l'expression orale.

LECTURE

Dès le début, l'apprentissage de l'habileté à lire doit comprendre de nombreuses situations de lecture. C'est à partir de textes significatifs qu'on demande à l'élève de faire appel à ses connaissances pour reconstruire le sens d'un message écrit. Avant la lecture, la mise en situation éveille la curiosité de l'élève vis-à-vis le texte proposé et augmente ses connaissances sur le sujet traité. Quand il éprouve des difficultés, l'élève peut se dépanner en ayant recours à un des moyens suivants: la poursuite de la lecture pour découvrir le sens du terme par le contexte, l'analyse des composantes lexicales, l'analyse des composantes grapho-phonétiques, les dictionnaires ou l'enseignant(e).

ÉCRITURE

La consolidation des mécanismes de lecture doit se poursuivre et s'affirmer dans l'écriture. Dès le début de l'apprentissage, l'élève est appelé à reproduire ou à agencer des mots, des phrases dont il connaît déjà le sens. De plus en plus au cours de l'élémentaire, l'élève doit rédiger de courts textes pour s'exprimer, créer, informer, décrire, persuader, convaincre, faire agir, inventer, amuser ou divertir. Une bonne connaissance de l'orthographe et de la grammaire reste un facteur important pour que l'élève arrive à rendre compréhensible son texte. L'élève devra donc, à partir de la correction de ses textes, arriver à assimiler les connaissances et les techniques nécessaires à l'écriture, c'est-à-dire l'orthographe d'usage, l'orthographe grammaticale et la syntaxe. Ainsi pour développer son habileté à écrire, l'élève doit avoir l'occasion d'écrire souvent.

L'EXPRESSION DRAMATIQUE À L'ÉLÉMENTAIRE

L'expression dramatique est une méthode dont peut se servir l'enseignant du français pour permettre aux élèves de s'exprimer verbalement. La communication verbale

présuppose certaines habiletés qui entourent les quatre savoirs.

L'art dramatique peut aussi faciliter l'apprentissage des autres matières. De plus, c'est pour l'enfant un moyen de mettre en valeur un potentiel créatif et de développer sa personnalité.

Le guide pédagogique *Le jeu et l'expression dramatique à l'école élémentaire* présente l'expression dramatique sous trois aspects: l'expression corporelle, l'expression verbale et l'improvisation. L'enseignant(e) y trouvera des activités indiquées pour les différents âges scolaires de la Maternelle à la 6e année.

7e année à 12e année

L'objectif de l'enseignement du français langue maternelle dans les écoles de la Nouvelle-Écosse au niveau secondaire est le développement de l'habileté à communiquer oralement et par écrit. D'une part le processus d'apprentissage utilisé doit respecter les règles ou les lois qui régissent le développement d'une habileté et d'autre part doit tenir compte non seulement de ce qu'est la langue mais aussi de ce que signifie communiquer oralement et par écrit.

Une habileté se développe quand on est placé dans une situation où on doit tenir compte des conditions dans lesquelles s'exerce généralement l'habileté visée. C'est ce qu'on désigne par le mot *pratique*. Tous ceux et celles qui ont développé une habileté savent également qu'il est nécessaire non seulement de multiplier les pratiques mais aussi de les varier.

La pratique, l'objectivation de la pratique et l'acquisition de connaissances constituent les trois éléments du processus qui permettent le développement d'une habileté. Ce processus s'applique aux quatre savoirs: écouter, parler, lire et écrire.

Les situations de communication dans lesquelles les élèves seront placés doivent tenir compte des objectifs généraux de l'enseignement du français au secondaire. Ces objectifs visent à ce que l'élève francophone de la Nouvelle-Écosse puisse comprendre et produire différents discours propres à satisfaire ses besoins de communication personnelle et sociale.

Dans l'activité humaine, les besoins fondamentaux de communication correspondent aux besoins de connaître et de faire connaître, d'agir et de faire agir, de se connaître et de connaître les autres, de s'exprimer, de se donner une vision du monde, etc. Ainsi toutes les pratiques de compréhension et de production que les élèves feront au secondaire s'organiseront en fonction de quatre intentions de lecture et d'écoute, et de trois intentions d'écriture et de parole.

Les élèves auront à lire ou à écouter des discours:

1. avec l'intention de s'informer sur un sujet;
2. avec l'intention de connaître les goûts, les sentiments et les opinions de quelqu'un;

3. avec l'intention de s'informer en vue d'actions à poser;
4. avec l'intention de satisfaire leur besoin de l'imaginaire, d'explorer le langage, de se donner une vision du monde.

Aussi les élèves auront à formuler des messages oraux et écrits:

1. avec l'intention d'informer sur un sujet;
2. avec l'intention d'exprimer leurs goûts, leurs sentiments et leurs opinions;
3. avec l'intention de satisfaire leur besoin de l'imaginaire, d'explorer le langage et de donner leur vision du monde.

Les situations de communications dans lesquelles les étudiants sont placés doivent s'actualiser dans différents discours: discussion, débat, exposé, conférence, lettre, article, éditorial, roman, poème, pièce de théâtre, nouvelle, conte, etc. (Voir le tableau des discours dans *Programme d'études français 10-12*, p. 10).

L'organisation des pratiques de communication dépend en grande partie de chaque enseignant(e), de la relation maître-élève que l'enseignant(e) établit avec sa classe, du groupe d'élèves à qui l'enseignant(e) enseigne et des ressources disponibles. Néanmoins chaque pratique doit comprendre deux étapes: la *mise en situation* et la *réalisation*.

Toute habileté se développe mieux, plus facilement et plus rapidement si l'élève, de lui-même ou avec l'aide de l'enseignant(e), s'observe; s'il découvre des liens entre son action, l'objet de son action et les circonstances où il agit; s'il évalue l'efficacité de son action, etc. Ce retour sur sa pratique, c'est ce qu'on appelle *l'objectivation de la pratique*. Dans le cours de français cette étape du développement d'une habileté est très importante.

Cette objectivation se fera en fonction des éléments notionnels qui, eux, peuvent se regrouper en deux catégories:

- a) Les éléments notionnels qui se rapportent à la situation de communication, c'est-à-dire, l'émetteur, le récepteur, le référent, l'environnement, et les rapports entre ces composantes;
- b) Les éléments notionnels qui se rattachent au fonctionnement de la langue et des discours, c'est-à-dire les éléments de fonctionnement du discours narratif, descriptif, analytique, argumentatif ainsi que les aspects du fonctionnement de la langue: lexicale, syntaxe, orthographe, éléments prosodiques, etc.

Il est important de comprendre qu'identifier, analyser et évaluer sont d'abord et avant tout des opérations mentales que l'élève doit faire lui-même avec ou sans l'aide de l'enseignant(e) pour objectiver sa pratique. Cela signifie que l'enseignant ne peut pas faire pour l'élève ces opérations mentales; son rôle est plutôt de les provoquer ou de faire en sorte que l'élève observe, analyse et évalue lui-même ses

pratiques de compréhension et de production. Le rôle de l'enseignant(e) est de proposer des activités qui amèneront nécessairement l'élève à revenir non seulement sur le discours mais aussi à revenir sur la façon dont il a lu ou écouté, ou sur la façon dont il a formulé son message.

Bien qu'il soit vrai qu'une habileté se développe par la pratique et que ce développement s'effectue mieux quand l'élève objective son action, il est également indéniable que le recours à l'expérience et aux connaissances des autres qui ont déjà maîtrisé cette habileté est souvent utile et parfois nécessaire.

Ainsi dans l'acquisition de l'habileté à communiquer, les connaissances sont pour l'élève des moyens, des instruments et des ressources pour mieux objectiver ses pratiques ou pour mieux réussir ses pratiques.

L'enseignant visera donc avant tout à choisir la façon qu'il juge la plus efficace et la plus rentable pour faire acquérir les connaissances de la langue. Il peut procéder par :

- démonstration et application toujours à partir d'un texte vu dans sa globalité;
- manipulation significative, c'est-à-dire ajouter, soustraire, substituer, ou permuter un élément d'un ensemble et faire constater les changements apportés par ces modifications;
- induction;
- solution de problème;
- discussion, débat;
- etc.

L'acquisition des connaissances ne constitue pas l'aboutissement d'une séquence d'enseignement. Elle peut se faire à n'importe quel moment au début ou au cours d'une pratique ou d'une activité d'objectivation.

Aux deux objectifs généraux rattachés aux habiletés langagières, le programme ajoute un troisième objectif général rattaché aux valeurs socio-culturelles. Cet objectif vise à amener les élèves à se situer par rapport aux valeurs véhiculées par les discours qu'ils liront ou écouteront en classe de français.

Apprendre une langue, c'est apprendre à nommer le réel qui nous entoure.

Or, si la langue véhicule des valeurs socio-culturelles, les discours par leur contenu véhiculent également des façons de voir, de penser et de sentir le réel. Ainsi tout discours littéraire ou non-littéraire véhicule des valeurs. Entrer en contact avec différents discours, c'est être confronté avec autant de façons différentes de voir et de sentir les choses. C'est aussi comparer ces différentes perceptions à la sienne.

Compte tenu qu'il est impossible de dissocier les concepts de langue, de discours et de valeur, il est justifié que la classe de français traite de valeurs socio-culturelles.

Le programme de français langue maternelle au niveau secondaire s'est donné un quatrième objectif qui est celui d'amener les élèves à agir avec un esprit critique. Pour y arriver il faut à tout prix développer chez le jeune francophone néo-écossais une image positive de lui-même et de son statut linguistique. Ayant retrouvé cette confiance en lui-même et en sa langue, il sera à même de participer activement dans un esprit d'initiative et d'échange à toutes les activités du cours de français. Dans cette perspective, l'élève sera amené à devenir responsable de son apprentissage, à aller trouver les moyens: dictionnaires, livres de ressources, encyclopédies, grammaire, etc. qui lui permettront d'atteindre son objectif.

FRANÇAIS (FRA 226, 236, 246)

Le cours catégorie "200" doit rencontrer les mêmes objectifs généraux et suivre, dans son ensemble, les mêmes orientations générales du programme "400." Toutefois il se veut adapté aux besoins des élèves en ce qui concerne certains objectifs terminaux à atteindre, le choix des activités de compréhension et de production ainsi que le choix de textes et d'autre matériel didactique utilisé pour l'enseignement du cours. Le cours doit mettre l'accent sur la communication orale et sur le développement du goût pour la lecture et pour l'écrit relié aux intérêts et aux besoins de l'élève. L'enseignant visera à faire acquérir les notions de base de la langue orale et écrite. Beaucoup d'aide et d'attention individuelle doit être offerte à l'élève du cours 226, 236, et 246.

Le cours "200" offrira à l'élève des occasions d'être à l'aise dans une communication orale. L'élève sera encouragé à l'expression dramatique de toutes sortes.

L'élève sera mis dans des situations où il pourra s'exprimer par écrit pour des besoins pratiques et pour son besoin personnel; écrire son journal, ses réactions à ses lectures. Il sera amené à apprécier la littérature et à discuter de la publicité et des media. L'élève sera encouragé par un programme individualisé de lecture. On lui offrira des textes littéraires simples mais de qualité. On visera à ce qu'il se serve correctement des éléments de base de l'orthographe d'usage et de l'orthographe grammaticale dans ses productions écrites.

Le cours de français "200" reconnaît les besoins particuliers des élèves qui se dirigent vers le marché du travail ou vers l'école technique ou professionnelle. Le cours vise à répondre aux besoins de ces jeunes et à leur assurer une compétence linguistique apte à faire d'eux des citoyens compétents et actifs dans la société.

FRANÇAIS (FRA 426, 436, 446)

Le cours de français langue maternelle au secondaire 2e cycle continue de suivre la même approche et de viser les mêmes objectifs généraux que le premier cycle du secondaire. Toutefois l'analyse des discours est plus complexe, et on s'attendra à ce que les élèves se servent d'habiletés langagières plus raffinées. Ils seront demandés de se servir

d'habiletés pour décrire, expliquer, argumenter, raconter, percevoir avec exactitude, analyser clairement, juger et sélectionner.

Le cours de français au secondaire 2e cycle donnera aux élèves l'occasion de faire l'étude approfondie des genres littéraires, chaque niveau mettant l'accent sur un genre: 10e année, le conte; 11e année, la pièce de théâtre; 12e année, le roman. On choisira des oeuvres du passé et des oeuvres plus récentes, quelques unes étant d'auteurs canadiens.

Sans oublier le rôle important de l'oral, l'accent sera mis sur l'écrit. Les élèves seront demandés d'écrire souvent, sur des sujets signifiants pour des auditoires variés et autant que possible réels. On évitera d'astreindre les élèves à faire des séries d'exercices dépourvus de contexte. C'est à partir des rédactions des élèves et à partir de la lecture de textes littéraires et non littéraires de qualité que les notions de ponctuation, d'épellation, de syntaxe et de grammaire seront graduellement assimilées.

L'EXPRESSION DRAMATIQUE 326 (EDR 326)

Il s'agit d'un cours introductoire pour les élèves intéressés à l'art dramatique et au théâtre, mais on suppose que l'élève a déjà reçu une certaine formation en expression dramatique à l'intérieur des cours de français des années précédentes. Le cours est de nature à développer les ressources physiques, affectives et intellectuelles de l'élève et il porte particulièrement sur la concentration, la sensibilisation, l'imagination, le contrôle physique et la communication sociale. Le contenu du cours comprend le mouvement expressif, l'interprétation orale, l'improvisation et les pièces écrites. L'enseignant(e) peut faire valoir ses forces, ses intérêts et ses expériences en expression dramatique et concentrer son enseignement dans les domaines où il se sent le plus compétent. Le cours est centré surtout sur les aspects d'improvisation ou de créativité de l'art dramatique, mais il présente aussi une introduction à la présentation d'une pièce de théâtre.

L'EXPRESSION DRAMATIQUE 336: LE THÉÂTRE (EDR 336)

Le cours EDR 326 réussi est normalement prérequis pour s'inscrire au cours EDR 336. Les élèves y trouveront l'occasion de découvrir des principes de l'art théâtral en s'adonnant à des jeux de rôles et à la réalisation de pièces de théâtre. Le travail théorique comprend la nature du drame, l'analyse, l'interprétation et l'appréciation de pièces de théâtre (d'une bonne variété de media et de styles), la composition de scènes et l'évaluation de présentations. Les activités pratiques comprennent du travail plus poussé dans l'art dramatique et dans l'improvisation, ainsi que dans le mouvement, l'élocution, le développement de rôles dans des pièces écrites et la mise en scène de courtes pièces écrites. Des projets tels que la composition de saynètes et de pièces, des enregistrements sur ruban magnétique et la création de décors pour une pièce en particulier, font également partie de ce cours. Les habiletés à écrire et à parler seront traitées en parallèle.

Hygiène

Guides pédagogiques

Hygiène, développement personnel et social, M à 6e année
(No 31, 1978)

Hygiène, développement personnel et social, 7e à 9e année
(No 61, 1980)

Suppléments

Le vieillissement (No 29, 1981)

Programme et description des cours

Le but premier d'un programme d'hygiène est le bien-être individuel et communautaire ainsi que la promotion d'un style de vie favorable à une bonne santé. Le programme doit promouvoir la croissance et le développement des élèves afin qu'ils puissent jouir d'une bonne santé physique, sociale et affective. En plus de développer de bonnes attitudes envers la santé, le programme doit aussi encourager les élèves à accepter le fait qu'ils sont personnellement responsables de leur santé.

Maternelle à 6e année

Le programme d'hygiène au niveau élémentaire doit viser les objectifs suivants:

- développer le respect de son corps avec une connaissance de sa structure, de ses fonctions, de sa croissance et de son développement;
- développer des attitudes et des habitudes qui feront mieux apprécier ce qu'exige une bonne santé physique et émotionnelle;
- promouvoir le développement d'un concept positif de soi et une acceptation et appréciation des autres;
- développer une acceptation et une compréhension de ses sentiments personnels et de ceux des autres et apprendre comment les traiter de façon constructive;
- développer une compréhension des relations entre les valeurs personnelles et le comportement personnel;
- développer une prise de conscience de la nécessité de prendre des décisions en ce qui concerne sa santé et comprendre le rapport entre une décision prise et les conséquences de cette décision;
- développer une connaissance de la nature et des fonctions de la famille et de ses membres, et des rôles et responsabilités de chacun;
- développer une prise de conscience et un souci des pratiques de sécurité ainsi que des responsabilités qu'ils entraînent.
- développer une compréhension du fait que les drogues peuvent être utilisées de façon bienfaisante ou de façon nuisible.

7e année à 9e année

Au secondaire premier cycle, le programme d'hygiène continue à mettre l'accent sur le développement d'une vie saine. À partir de stratégies d'activités d'apprentissage appropriées aux besoins des élèves, le programme vise à approfondir les concepts de croissance et de développement propres à une vie saine aux plans physique, social et émotif

7e année

En 7e année les activités d'apprentissage doivent viser à informer les élèves sur les maladies et leurs effets. Le programme vise également une prise de conscience des effets des drogues, spécialement de l'alcool sur des émotions et sur la croissance. Il présente aux élèves des alternatives et les aide à prendre des décisions face à l'utilisation des drogues ainsi que de la cigarette. Une autre composante du programme porte sur la prise de conscience de la part des élèves, des effets de la pollution sur l'environnement et la vie de leur communauté.

8e année

En 8e année, le programme vise toujours le développement d'une attitude saine envers le bien-être et la sécurité et en plus vise à encourager le développement de bonnes habitudes d'alimentation. Le programme vise également le développement d'une compréhension des effets et des conséquences que peut entraîner l'abus de substances telles les drogues, l'alcool ou le tabac. Le programme favorise chez les élèves une prise de conscience de l'influence des pairs et de la publicité quant à l'utilisation du tabac, des drogues et de l'alcool.

9e année

En 9e année, le programme d'hygiène vise à développer chez l'élève, l'habileté à réagir de façon responsable en cas d'urgence. L'élève doit aussi arriver à comprendre l'importance du bien-être physique au maintien de la santé. Tout en continuant de souligner les effets de l'alcool, du tabac et des drogues, le programme favorise chez l'élève, la prise de conscience des effets que ces substances ont sur la performance, la personnalité et le développement foetal. Le programme vise également à rendre l'élève conscient des services de santé qui existent dans son milieu.

Mathématiques

Guides pédagogiques

La mathématique à l'élémentaire, M à 6e année (No 28, 1978)

Supplément

Points de repère en mathématique, 3e à 6e année (No 45, 1984)

Programme et description des cours

Maternelle à 6e année

Le programme de mathématiques à l'élémentaire se divise en trois thèmes généraux:

- 1) les opérations et les relations numériques;
- 2) les mesures;
- 3) les relations des formes dans l'espace.

Ces trois thèmes vont de pair et sont à développer selon une progression en spirale. Les activités mathématiques doivent fournir les occasions à l'élève de découvrir l'ordre, les régularités et les relations qui forment la base des connaissances fondamentales en mathématiques et qui sont nécessaires au développement des habiletés mathématiques.

Au début de l'élémentaire il faut permettre aux enfants de s'exercer à comparer, classer et trier avant de les faire travailler avec le concept du nombre. Ces habiletés préliminaires sont essentielles à l'apprentissage subséquent des mathématiques.

Avec l'implantation du système métrique l'accent se place sur le calcul décimal. Tous les élèves doivent arriver à posséder une méthode efficace de travail avec les nombres entiers et les décimaux pour chacune des quatre opérations: l'addition, la soustraction, la multiplication et la division. Ces méthodes se développent au moyen de la manipulation d'objets concrets dans les activités utilisant d'abord des objets réels et ensuite un matériel structuré tel les cubes "unifix." Les enfants doivent faire application des opérations arithmétiques à des situations du monde réel.

Le travail avec les fractions porte sur les demis, les quarts, les cinquièmes, les dixièmes et les centièmes. Les opérations avec les fractions ne sont abordées qu'en sixième année.

Les élèves doivent s'exercer à résoudre des problèmes, avec accent sur l'apprentissage de stratégies.

Voici quelques uns des concepts et des habiletés que chaque élève doit acquérir au plus haut point de maîtrise dont il est capable:

MATERNELLE À 3E ANNÉE:

Nombres: opérations et relations. Lire et écrire les relations numériques en utilisant des objets concrets; utiliser correctement des mots signifiant "plus grand que," "moins que" et "égal à" pour indiquer des relations; compter par sauts de 2, de 3, de 4, de 5, et de 10; reconnaître et continuer des régularités numériques; connaître les notions de l'addition jusqu'à 18 et les notions de soustraction correspondantes; connaître les notions de la multiplication jusqu'à 5×5 et les notions correspondantes de la division; identifier $1/2$, $1/3$, $1/4$, $1/5$, $1/10$ d'une région; utiliser les décimaux de 0.1 à 0.9 et de 0.01 à 0.99 dans des situations réelles; additionner et soustraire des nombres à deux et à trois chiffres; multiplier des nombres à deux et à trois chiffres par un nombre à un chiffre; identifier l'existence de

problèmes mathématiques dans la vie réelle et initier le développement de méthodes pour la solution de ces problèmes.

Géométrie: forme et espace. Classifier et trier des objets selon divers attributs; identifier, décrire et développer des régularités; reconnaître les formes géométriques dans le monde réel; construire des modèles à deux et à trois dimensions; identifier et nommer diverses formes géométriques de deux et de trois dimensions de différentes grandeurs et en différentes positions; identifier des formes symétriques; identifier des lignes de symétrie; créer des formes symétriques; identifier des figures planes congrues; démontrer certaines propriétés des formes géométriques.

Mesures et rapports. Comparer et ranger des objets selon la longueur, la hauteur, le volume, la masse; estimer et mesurer en utilisant des unités non-conventionnelles; estimer et mesurer en centimètres, en mètres, en grammes et kilogrammes, en litres, en degrés Celsius; mesurer avec des instruments de mesure métriques; dire et écrire l'heure; comprendre semaines et mois; utiliser correctement l'argent pour acheter et faire de la monnaie; faire une cueillette de données; construire et interpréter des pictogrammes et des graphiques à bandes.

4e année à 6e année

Opérations et relations. Utiliser correctement les symboles de "plus grand que," "plus petit que," "égale à" dans des phrases; trouver la solution d'équations et d'inégalités simples avec nombres entiers; résoudre des problèmes écrits; démontrer une connaissance des propriétés de commutativité, d'associativité et de distributivité, ainsi que des propriétés du "zero" et du "un," en les utilisant comme moyen de simplifier les calculs; utiliser les régularités de la multiplication et de la division par 10, 100 et 1 000 pour estimer des réponses; utiliser correctement les algorithmes de la multiplication et de la division; entretenir une maîtrise des notions fondamentales de l'addition et de la soustraction ainsi que de celles de la multiplication et de la division; trouver les facteurs et les multiples d'un nombre; trouver le PGFC et le PPCM de deux nombres; lire et identifier les décimaux jusqu'aux millièmes; additionner, soustraire, multiplier et diviser des nombres décimaux; estimer des produits et des quotients de nombres décimaux; utiliser des décimaux dans la résolution de problèmes; utiliser des rapports dans des situations mathématiques pratiques; trouver un pourcentage donné d'un nombre; montrer une compréhension des fractions par l'utilisation de matériel concret; résoudre des problèmes simples d'addition, de soustraction, de multiplication et de division en utilisant des fractions (surtout des demis, des quarts, des cinquièmes, des dixièmes et des centièmes); utiliser des nombres entiers dans des situations se rapportant aux sciences naturelles; ordonner des nombres entiers sur une droite numérique; additionner des nombres entiers; identifier des situations qui présentent un problème mathématique dans la vie réelle et développer des stratégies pour résoudre ces problèmes; utiliser la calculatrice pour développer le concept du calcul et pour la résolution de problèmes.

Géométrie: forme et grandeur. Classifier, trier et identifier des formes géométriques à deux et à trois dimensions; construire des modèles géométriques, identifier les sommets, les faces, les arêtes; identifier les parties d'un cercle; identifier des lignes de symétrie, des lignes perpendiculaires et parallèles, des angles divers; utiliser des instruments géométriques (compas, règle, etc.) pour construire des figures géométriques; tracer des réflexions et montrer de simples rotations et translations avec diverses formes géométriques; créer des dessins de patrons comme des arrangements en damier; démontrer les propriétés des formes et les relations entre ces formes.

Mesures et relations. Estimer et mesurer en mètres, centimètres, millimètres, kilomètres, kilogrammes, grammes, litres, millilitres, degrés Celsius; utiliser correctement les préfixes du système métrique SI; trouver le périmètre, l'aire et le volume de diverses figures géométriques; situer des points sur un plan de coordonnées; lire et interpréter des tables, des tableaux, des graphiques; recueillir des données, construire et interpréter des pictogrammes, des graphiques à bandes et à lignes.

À tous les niveaux de l'élémentaire le programme doit faire appel à des méthodes et à des situations d'apprentissage diverses:

- une utilisation considérable de matériel concret lorsqu'on présente un nouveau concept;
- la possibilité pour chaque élève de pouvoir avancer à sa propre vitesse à travers les étapes de:
 - l'expérimentation avec le matériel;
 - la formation et la vérification d'hypothèses sur les relations observées;
 - la communication de ses découvertes, tout d'abord oralement ou à l'aide de diagrammes et ensuite par l'écriture de symboles;
 - les exercices en vue de fixer un concept qui a été compris. (Ces exercices doivent toujours suivre et non précéder la découverte.)

Comme dans toute autre discipline scolaire, il est essentiel que l'élève jouisse de son expérience en mathématique et connaisse un certain succès dans son travail. L'attitude de l'élève est de première importance. Il acquiert une attitude positive au moyen des nombreuses situations réelles, des activités, des discussions et de l'application à de nouvelles situations dans lesquelles il développe une confiance en lui-même face aux problèmes quotidiens.

Afin de rencontrer les besoins et les habiletés des élèves du premier cycle secondaire, les expériences mathématiques doivent être assez nombreuses et variées. Elles doivent découler de l'apprentissage au cours des années précédentes, ce qui exige que ceux qui planifient le programme jouissent d'une bonne connaissance des développements courants du programme en mathématiques à l'école élémentaire. Afin de maintenir l'intérêt et la responsabilité de la part de l'élève, les enseignants doivent avoir recours à des techniques telles que les suivantes: investigations en petit groupe, expériences de laboratoire, jeux et puzzles, aides visuelles, matériel concret, applications à l'environnement, problèmes reliés à des situations réelles, projets, individualisation de certains aspects du programme.

Les enseignants doivent être conscients de la nature du programme de mathématiques: un concept est introduit assez tôt et il est graduellement approfondi en y revenant périodiquement.

L'accent du programme de mathématiques doit être sur:

1. le développement des concepts et des habiletés;
2. le développement de stratégies de résolution de problèmes;
3. l'utilisation de la calculatrice pour développer des concepts, pour aider dans la résolution de problèmes et pour certains calculs;
4. les habiletés de l'estimation;
5. les applications à des situations réelles.

7e ANNÉE:

Revue des opérations et des propriétés des nombres entiers et des décimaux; habileté mentale en arithmétique, avec accent sur l'estimation de réponses et l'arrondissement; développement de compétence avec les fractions; facteurs, nombres premiers et nombres composés, PPCM, PGFC; résolution de problèmes avec applications à des situations réelles; estimation, applications de mesures métriques, rapports et proportions, pourcentages; problèmes de consommateurs; similitude; graphiques, statistiques, probabilités simples, relations, fonctions, graphiques avec coordonnées; équations, inéquations; nombres entiers; divers polygones et certaines de leurs propriétés; symétrie, translations, réflexions, rotations; constructions géométriques simples; lecture et interprétation de tables, de tableaux, de cartes et de graphiques; stratégies pour la résolution de problèmes.

8e ANNÉE:

Extension du travail précédent sur les nombres entiers, les décimaux, les fractions; nombres rationnels avec accent sur des applications, la résolution de problèmes, l'estimation; solutions d'équations et d'inéquations; relations, fonctions, graphiques avec coordonnées; racines carrées, nombres irrationnels, exposants, notation scientifique; applications de mesures métriques (avec applications au périmètre, à l'aire, au volume); estimation, arrondissement, précision dans les mesures; théorème de Pythagore; rapports et proportions,

pourcentage; dessins à l'échelle; problèmes de consommation; statistiques, cueillette des données, construction de graphiques, lecture et interprétation de tables, de tableaux, de cartes et de graphiques; probabilité; transformations congrues et leurs propriétés, propriétés géométriques de figures planes, constructions simples, similitude; solution de problèmes avec triangles semblables; stratégies de résolution de problèmes.

9^e ANNÉE — ACADÉMIQUE:

Extension du travail précédent avec nombres entiers, nombres rationnels et irrationnels, exposants, approximation décimale des racines carrées, applications incluant le théorème de Pythagore; revue des mesures du système métrique SI (avec applications au périmètre, à l'aire et au volume), précision, estimation; relations, résolution d'équations et d'inéquations linéaires, graphiques de relations; évaluation d'expressions, addition et soustraction de polynômes, multiplication et division par un monôme, produit de deux binômes; facteurs communs, mise en facteurs de $1x^2 + bx + c$; rapports, proportions, pourcentage, taux, application en affaires et en commerce; transformations de dimensions, dessins à l'échelle; les transformations et leurs propriétés, descriptions algébriques de translations et de réflexions; propriétés des figures géométriques, comprenant les différentes sortes d'angles, de triangles, de quadrilatères et d'autres polygones, lignes parallèles et perpendiculaires, bissectrice d'un angle, bissectrice perpendiculaire, hauteurs, angles à l'intérieur d'un cercle, axes de symétrie, symétrie de rotation; constructions; congruence; revue et extension de ce qui a été vu sur les figures à trois dimensions; statistiques incluant l'organisation et la présentation des données, interprétation de tables et de graphiques, abus de statistiques; techniques simples de cueillette de données, incluant l'échantillonnage aléatoire et la prédiction approximative basée sur l'échantillonnage.

OU

9^e ANNÉE — MATHÉMATIQUE AVEC APPLICATIONS DANS LA CONSOMMATION:

Ce cours est destiné aux élèves qui ont besoin de plus de temps pour acquérir les habiletés de base et pour qui il est plus important d'appliquer la mathématique à des problèmes se rapportant à la consommation. Les besoins et les habiletés de ces élèves sont variés et il faut leur accorder toute possibilité de développer une compréhension mathématique et des habiletés qui leur seront utiles. L'enseignant(e) doit les assister avec patience et leur fournir les occasions de goûter au succès en mathématiques.

Le cours doit traiter les questions suivantes: lecture et interprétation de tables, de tableaux et de graphiques, utilisant des nombres entiers, des décimaux, des fractions dans des applications pratiques; mesures métriques; figures géométriques planes et solides et certaines de leurs propriétés; rapports, proportions, pourcentage, arrondissement, estimation; dessins à l'échelle, graphiques;

services bancaires, achat et vente de produits et de services, renseignements utiles au consommateur, finances personnelles; algèbre élémentaire.

PROGRAMME AJUSTÉ POUR LES NIVEAUX 7 À 9:

Le but principal du programme ajusté de mathématiques est de développer l'habileté des élèves de faire une utilisation pratique des mathématiques dans la vie quotidienne.

Ce programme de trois ans comprend les sujets suivants: régularités numériques et habiletés, estimations, rapports, proportions, dessins à l'échelle, mesures, statistiques, géométrie appliquée, mathématiques du consommateur.

10e année à 12e année

OBSERVATION GÉNÉRALE

Les enseignants doivent être conscients de l'approche en spirale du programme de mathématiques: une idée est d'abord présentée et ensuite développée en y revenant périodiquement pour la considérer avec plus de profondeur.

L'accent doit être sur les points suivants:

1. le développement de concepts à l'aide d'intuition et d'applications à des situations concrètes;
2. le développement de stratégies de résolution de problèmes;
3. les applications se rapportent à des situations réelles;
4. l'intégration de l'algèbre, la géométrie, la trigonométrie, etc.;
5. l'estimation

Les enseignant(e)s doivent utiliser la calculatrice comme instrument de calcul et pour aider à développer des concepts. Il faut aussi utiliser le micro-ordinateur à chaque fois qu'on dispose de logiciel approprié au développement de concepts ou à l'enrichissement de l'apprentissage.

MATHÉMATIQUES 226 (MAT 226)

Mesure, périmètre, aire; rapport, proportion; services bancaires, crédit; nombres rationnels, exposants, radicaux simples, racine carrée, théorème de Pythagore; régularités numériques; pourcentage; équations simples, inégalités; formules utilisées dans les affaires et dans l'industrie, mathématiques du consommateur (chèque de paie, taxes et impôts, budgets, services gouvernementaux, achat de marchandises et de services); lecture et interprétation de tables, de tableaux et de graphiques; cueillette, organisation et analyse de données; constructions géométriques, mesure des solides, révision du système métrique SI, mesure indirecte; relations, équations linéaires, graphiques à base de coordonnées, graphiques d'équations linéaires, applications d'équations linéaires.

Dans ce cours les applications peuvent centrer sur des problèmes rencontrés soit dans les affaires ou dans le commerce et l'industrie.

MATHÉMATIQUES 426 (MAT 426)

Relations, fonctions, équations linéaires (incluant la pente et les coordonnées à l'origine), systèmes d'équations linéaires, inégalités, applications; révision des mesures métriques SI; rapport, proportion, applications pour le consommateur; théorème de Pythagore, nombres irrationnels, expressions avec radicaux, trigonométrie de l'angle droit et applications, variations directes et inverses; géométrie analytique (comprenant la distance, le point-milieu, la pente de droites parallèles et perpendiculaires); investigation des propriétés des triangles, des quadrilatères et des cercles; vecteurs et applications; statistiques (comprenant la cueillette, l'organisation et l'utilisation des données, l'échantillonnage aléatoire, les inférences portant sur une population, l'abus de statistiques); révision des transformations avec congruence et leurs propriétés; le raisonnement déductif en vue de preuves formelles; composition de transformations, descriptions algébriques de transformations, introduction aux dilatations, applications; opérations avec polynômes, factorisation, équations quadratiques.

MATHÉMATIQUES 437 (MAT 437)

Habiletés et stratégies de résolution de problèmes, polynômes, radicaux, nombres réels, équations du premier degré, systèmes d'équations du premier degré et applications; inégalités et systèmes d'inégalités, programmation linéaire; rapport, proportion, variation (directe, inverse, corrélative, etc.); équations quadratiques et applications, géométrie analytique incluant les propriétés de figures (cercles, paraboles, etc.) et les translations; statistiques incluant l'utilisation de données dans une prise de décision, vérification d'hypothèses au moyen d'expériences et de simulations, probabilité et prédiction; trigonométrie à base de l'angle droit, lois des sinus et des cosinus et applications, graphiques du sinus et du cosinus; géométrie à trois dimensions; mathématiques de la vie quotidienne incluant les transactions bancaires et l'impôt sur les revenus; matrices (opérations, applications incluant les frais d'inventaire et de production, transformations, etc.).

MATHÉMATIQUES 436 (MAT 436)

NOTE: Ce cours est destiné aux élèves qui devront suivre un cours de calcul d'au moins un an à un établissement postsecondaire.

Il faut essayer d'intégrer à tous les sujets du cours les techniques de la résolution de problèmes et les preuves. Les élèves doivent aussi faire des preuves tout au long de l'année.

Fonctions, comprenant les fonctions constantes, linéaires, exponentielles, logarithmiques et trigonométriques (l'étude de chacune de ces fonctions doit inclure les graphiques, translations, réflexions, agrandissements et leurs effets sur les équations et sur les graphiques, fonction inverse, évaluations pour diverses substitutions, zéro(s) et valeurs données de $f(x)$, inégalités, applications et utilisation de la calculatrice); lois des sinus et des cosinus, identités, équations trigonométriques; géométrie analytique

(comprenant les transformations de cercles et d'ellipses, intersections de lignes et de coniques, inégalités); matrices (opérations, transformations, systèmes linéaires); théorie élémentaire de la publicité, permutations, combinaisons et le produit d'un binôme à la puissance n ; géométrie (dilatations, figures semblables, preuves).

MATHÉMATIQUES 447 (MAT 447)

Habiletés et stratégies de résolution de problèmes; statistiques et probabilité incluant la probabilité expérimentale et théorique, la vérification d'un hypothèse au moyen d'expériences et de simulations, prédiction, X^2 ; relations et fonctions; fonctions quadratiques et linéaires incluant les transformations et leurs effets sur les graphiques et les équations; révision des opérations avec les polynômes, équations avec expressions rationnelles, applications incluant des problèmes avec valeurs maximales et minimales, régions quadratiques, systèmes linéaires et quadratiques; fonctions exponentielles (graphiques et applications); fonctions logarithmiques, graphiques, utilisation de la calculatrice, applications; géométrie analytique incluant l'intersection de cercles, droites et quadratiques, coordonnées dans l'espace (trois dimensions) distance et équations et figures planes dans l'espace (trois coordonnées); matrices incluant les opérations avec les lignes (rangées) et utilisant les matrices augmentées pour résoudre des systèmes d'équations linéaires, applications; suites et séries avec applications à l'intérêt composé, aux annuités et aux hypothèques; introduction aux limites à l'aide de calculatrices ou d'ordinateurs.

MATHÉMATIQUES 446 (MAT 446)

NOTE: Ce cours est une continuation de MAT 436, à l'intention des élèves qui devront suivre un cours d'au moins un an en calcul à un établissement postsecondaire.

L'accent de ce cours est sur la dérivation et la résolution de problèmes. On aura à faire de nombreuses applications de manipulation algébrique.

Révision des fonctions constantes, linéaires, quadratiques et polynomiales; théorie des équations, théorème de factorisation, théorème des racines rationnelles, fonctions rationnelles, représentations graphiques, opérations avec expressions rationnelles, fonctions algébriques, révision des fonctions exponentielles et logarithmiques, développement devant inclure e^x et $\ln x$; coniques (paraboles, cercles, ellipses et hyperboles); transformations, lieux géométriques, cylindres, cônes et sphères; révision des fonctions trigonométriques, graphiques, identités d'angles composés, d'angles doublés et de demi-angles, équations; vecteurs sur un plan et dans l'espace; nombres complexes, théorème de DeMoivre, coordonnées polaires, suites et séries et applications; introduction au calcul (incluant limites, tangentes, pentes et courbes, vitesse et accélération, différentiation de fonctions simples et antidifférentiation de fonctions simples).

Musique

Guides pédagogiques

La musique à l'élémentaire, M à 3e année (No 47, 1980)

La musique à l'élémentaire, 4e à 6e année (No 86, 1984)

Programme et description des cours

Maternelle à 6e année

La musique à l'élémentaire a pour but d'offrir aux élèves une expérience musicale bien équilibrée et suffisamment large. Les buts principaux sont le développement d'une réaction esthétique, le goût de la bonne musique, le discernement et une connaissance des divers éléments compris dans le terme "musique." À chaque niveau, les activités musicales devraient être intégrées dans autant d'aspects de l'éducation que possible.

L'enfant est curieux de l'univers qui l'entoure et s'intéresse tout spécialement au monde sonore par ses propres expériences. Le programme devrait lui offrir la possibilité de vivre et de partager des expériences esthétiques et devrait lui permettre des contacts avec le monde sonore. L'enseignant(e) doit susciter une ambiance de recherche dans la joie d'explorer ce monde sonore.

Le point central à tous les niveaux de l'élémentaire est de familiariser l'élève aux différents éléments de la musique au moyen d'une participation active. La musique à ce niveau vise essentiellement l'assimilation du matériel sonore par une approche sensorielle de la musique orientée vers la participation de l'élève. Une grande partie du programme en musique doit donc être orientée vers les activités, que ce soit dans le domaine de la danse, du chant ou des mouvements rythmés et coordonnés. À cet effet, l'enseignant(e) adoptera une attitude permissive, acceptera que l'élève procède à tâtonnements et permettra non seulement de faire de la musique, du chant ou de la danse mais aussi de jouer avec la musique, avec le monde sonore, et de découvrir le rythme. Le programme sera plus efficace si l'enseignant en musique travaille en collaboration avec les autres enseignants dans le but d'intégrer la musique aux autres disciplines scolaires.

Sciences familiales

Guide pédagogique

Sciences familiales, 7e à 12e année (No 68, 1981)

Suppléments

Sciences familiales pour les enfants et les jeunes en difficulté d'adaptation et d'apprentissage (No 31, 1982)

Le vieillissement (No 29, 1981)

Observations générales

Le programme des sciences familiales dans nos écoles a comme but principal d'encourager les qualités qui assurent une vie familiale saine. La planification de chaque leçon devrait comprendre les trois idées principales suivantes:

- *les relations interpersonnelles* des élèves entre eux, avec les enfants d'âge préscolaire, avec les adultes et avec les citoyens du troisième âge.
- *a gestion* des ressources humaines et matérielles;
- l'éducation qui vise au développement d'un *sens des valeurs* vis-à-vis la personne, la publicité, la consommation, la sécurité et la nutrition.

Les sciences familiales embrassent tous les aspects de la famille, y compris les cultures du passé comme celles d'aujourd'hui.

Le personnel enseignant devrait choisir les unités décrites dans le guide pédagogique d'après les besoins et les niveaux d'études des élèves. Il y aurait lieu aussi d'adapter les concepts aux capacités des élèves. Il est possible de développer davantage, de condenser ou de combiner les unités selon les situations particulières.

Programme et description des cours

7e année à 9e année

ALIMENTS ET ALIMENTATION

De la maternelle à la sixième année, les élèves ont progressivement avancé dans leurs connaissances en alimentation, et l'on doit à ce point s'efforcer de relier à la vie pratique les connaissances acquises. On considérera la préparation des repas plutôt que les catégories de nourriture comme telles.

On insistera davantage sur l'achat et sur les précautions à prendre dans l'entreposage et dans la préparation des aliments. La flexibilité qu'offre ce programme permet de développer des objectifs répondant aux besoins des élèves.

Le guide suggère les cinq unités données ci-dessous. Tous les élèves doivent compléter la première unité avant de procéder aux autres. Il est possible de compléter les deux premières unités dans une seule année. L'unité 'cinq' pourrait s'étendre sur une période de trois ans, ou elle pourrait être enseignée comme unité pour les élèves qui contemplent un emploi dans le domaine de l'alimentation, telle qu'offerte dans certaines écoles de langue anglaise sous le titre de "Junior Chefs" ou "Occupational Foods."

Unité Un	Les principes fondamentaux de la cuisine.
Unité Deux	La planification et la préparation de repas simples.
Unité Trois	Les dîners — le repas principal.
Unité Quatre	L'utilisation des aliments de la région et les habitudes alimentaires locales.
Unité Cinq	Le travail préparatoire pour une carrière en alimentation.

VÊTEMENTS ET TEXTILES

Les trois premières unités énumérées ci-après représentent un niveau de difficulté pour chacune des trois années du premier cycle. Le niveau de difficulté doit être progressif à partir du début, sans essayer de trop en faire. Un nombre limité d'objectifs bien réfléchis et bien exécutés assurent les meilleurs résultats.

L'unité quatre peut servir à créer un plus grand intérêt chez certains élèves et à développer l'originalité d'expression ainsi qu'une facilité d'expression de soi. L'artisanat a une valeur concrète dans l'enseignement de principes élémentaires en couture.

Unité Un	Les principes de base de la couture.
Unité Deux	Le travail pratique en couture.
Unité Trois	Le travail plus avancé dans la confection des vêtements.
Unité Quatre	L'artisanat textile.

VIE FAMILIALE

La vie familiale fait essentiellement partie de chaque leçon en sciences familiales et devrait représenter le tiers du programme au cours de l'année. Il se peut que pour accommoder l'horaire de l'école, il y ait avantage que l'enseignement des concepts se fasse pendant toute l'année scolaire; mais il faudrait de préférence y consacrer spécifiquement un tiers de l'année scolaire afin de traiter le sujet à fond.

Les unités Un, Deux et Trois devraient être complétées au cours de la 7^e et de la 8^e année. La 9^e année est le meilleur temps d'aborder l'étude du développement de l'enfant: "À la découverte de l'enfance." Il est possible de faire venir à l'école des enfants d'âge préscolaire, et il faudrait organiser le programme en sorte que pendant la première partie du trimestre les élèves étudient l'étape de l'enfance et participent ensuite, pendant les dernières classes, à des activités pratiques avec les enfants. S'il y a des inconvénients à faire venir les enfants à la classe il faudrait trouver d'autres

moyens de permettre aux élèves d'observer un groupe d'enfants d'âge préscolaire.

Unité Un	Moi, une personne.
Unité Deux	L'évolution des relations personnelles.
Unité Trois	Le développement de la connaissance de soi.

10e année à 12e année

SCIENCES FAMILIALES (SFA 326, 336, 346)

S'il y en a du tout, très peu des options données ci-dessous exigent des préalables. Compte tenu des besoins des élèves et des ressources de l'école, il est possible d'aborder une unité donnée en n'importe quelle année du deuxième cycle. Bien que certaines unités doivent être complétées par tous les élèves, aucun élève ne complètera toutes les unités.

Chacune des unités est matière pour la moitié ou pour le tiers d'une année scolaire, selon l'horaire de l'école. Il est possible de combiner deux ou trois unités d'une même catégorie pour constituer un programme d'une année entière dans 'Aliments et alimentation', dans 'Vêtements et textiles', etc., ou encore il serait possible de faire chaque année une unité dans chacune des trois catégories.

N.B.: Il arrive que des élèves (surtout des garçons) entreprennent des cours de sciences familiales au deuxième cycle sans aucune préparation: il y aurait peut-être lieu de leur offrir un programme du premier cycle ou une combinaison de programmes du premier et du deuxième cycle. Il importe de rencontrer les besoins réels des élèves en tenant compte de ce qui est déjà acquis.

N.B.: Afin de faire reconnaître un cours de sciences familiales en vue d'une carrière en nursing, il faut avoir suivi au moins une unité en alimentation en 12e année.

ALIMENTS ET ALIMENTATION

Unité Un	Les repas de famille (1) : La viande et autres aliments protéiques.
Unité Deux	Les repas de famille (2) : Glucides et lipides.
Unité Trois	Aliments, production et marché.

N.B.: Avec certaines classes on voudra peut-être traiter de ces sujets avec un approche plutôt théorique et scientifique; en d'autres cas les élèves pourraient mieux bénéficier d'un aspect plus pratique.

VÊTEMENTS ET TEXTILES

Unité Un	Le vêtement de la famille
Unité Deux	La mode et le flair
Unité Trois	L'artisanat

VIE FAMILIALE

Unité Un	Le développement de la personne pendant les années d'adolescence.
Unité Deux	Les relations entre homme et femme.
Unité Trois	La vie à l'âge adulte.

À LA DÉCOUVERTE DE L'ENFANCE

Unité Un	Le bébé.
Unité Deux	Le jeune enfant.

N.B.: Une troisième unité pourrait être offerte aux élèves qui s'intéressent d'un façon particulière aux enfants dans les garderies et les foyers pour enfants.

LOGEMENT ET ORGANISATION

Unité Un	Le foyer: aspects administratifs
Unité Deux	Le logement et le style de vie.
Unité Trois	Aspect financier.

Éducation spéciale

Plusieurs élèves des classes d'éducation spéciale sont capables de profiter du programme décrit dans le supplément *Sciences familiales pour les enfants et les jeunes en difficulté d'adaptation et d'apprentissage*. Le programme comprend trois parties:

- L'alimentation;
- Le vêtement;
- La vie familiale.

Sciences humaines

Guides pédagogiques

Les sciences humaines à l'élémentaire, M à 3e année (1976)
Les sciences humaines à l'élémentaire, 4e à 6e année (1976)
Histoire, secondaire, 7e à 12e année (No 1, 1977)
La géographie au secondaire, 7e à 12e année (No 30, 1977)
Civisme et Citoyenneté, 7e à 9e année (No 44, 1979)
Etudes du Canada, 10e année (No 67, 1981)
Economie 336 et Economie 446, 11e et 12e années (No 82, 1983)
La science politique, 12e année (1984)

Suppléments

Supplément au programme des sciences humaines, 4e année (No 22, 1979)
Supplément au programme des sciences humaines, 5e année (No 27, 1980)
Supplément au programme des sciences humaines, 6e année (No 30, 1981)
Supplément — Renseignements de base sur la série *One World*, M à 6e année

Programme et description des cours

Maternelle à 6e année

Le programme de sciences humaines vise à donner aux élèves un moyen de mieux comprendre et apprécier l'aspect social de la famille, de la communauté, de la province, du pays et du monde.

Le programme n'a pas uniquement une orientation géographique et historique. Il intègre également les aspects sociologiques, anthropologiques, économiques et politiques. Il vise le développement total de l'élève.

À partir de six grands thèmes le programme présente une séquence qui débute avec les concepts les plus familiers à l'élève: son moi, sa famille, sa communauté, sa région immédiate. Le programme ensuite s'oriente vers l'étude des familles, des communautés et des régions à l'intérieur et à l'extérieur du Canada pour s'acheminer vers une étude plus spécifique des provinces Atlantiques.

Les six grands thèmes sont:

Primaire	— La découverte du moi;
Première année	— Les familles;
Deuxième année	— Les communautés;
Troisième année	— Les communautés et les régions;
Quatrième année	— L'homme dans son milieu toujours changeant;
Cinquième année	— Les provinces Atlantiques;
Sixième année	— Population, migration, exploration.

Une bonne exploitation du programme fait appel aux autres disciplines scolaires telles que la langue, la musique, les sciences de la nature, les arts plastiques, les mathématiques, le développement personnel et social. Souvent les ressources humaines du milieu de l'élève pourront offrir des connaissances et des expériences vécues auxquelles viendra s'articuler le contenu du programme.

L'évaluation se fait quotidiennement, entre autres, par l'observation du travail individuel et au groupe, des travaux écrits ou compte-rendus, de excursions, de discussions, de descriptions, de dessins, de photos et la fabrication de modèles.

7e année à 12e année

INTRODUCTION À L'HISTOIRE CANADIENNE — JUSQU'EN 1800

Ce cours de la septième année, la première moitié d'un cours de deux ans, se divise en sept unités: Unité I — Le Canada avant l'arrivée des Européens; Unité II — L'arrivée des Européens; Unité III — Les Français en Amérique du Nord jusqu'en 1660; Unité IV — Les Anglais en Amérique du Nord jusqu'en 1664; Unité V — Les Français à leur apogée en Amérique du Nord — 1660-1713; Unité VI — La conquête de la Nouvelle-France — 1713-1763; Unité VII — Les difficultés de croissance en Amérique du Nord — 1763-1800.

Les thèmes et les concepts de l'histoire acadienne sont intégrés à l'histoire canadienne, en suivant leur ordre chronologique, d'après leur intégration aux thèmes à l'étude.

GÉOGRAPHIE DU CANADA

Ce cours fournit aux élèves un aperçu général du Canada tout en favorisant le développement des notions et des habiletés géographiques pour une meilleure compréhension du Canada. Les études portent sur diverses régions. Les enseignant(e)s sont encouragés à utiliser les cartes, les tableaux graphiques, les images et autres matériaux audiovisuels tels que les films fixes, vidéocassettes, etc.

Les neuf unités qui constituent ce cours sont: Unité 1 — Un aperçu général du Canada; Unité 2 — La région locale; Unité 3 — La région Atlantique; Unité 4 — Les Basses-Terres du Saint-Laurent et de l'Outaouais; Unité 5 — Les Basses-Terres de la région des Grands Lacs; Unité 6 — Le moyen Nord (ou l'Ontario du centre); Unité 7 — Le grand Nord; Unité 8 — l'Alsama — les plaines de l'Ouest; Unité 9 — Les cordillères et les vallées de la Colombie-Britannique.

Les études auront avantage d'être d'après certains thèmes tels que: 1 — La topographie; 2 — Le climat; 3 — La végétation; 4 — L'histoire; 5 — La population; 6 — Les industries.

Ces six grands thèmes peuvent être étudiés de deux manières: soit à l'échelle du pays, soit à l'échelle d'une région du Canada.

CIVISME ET CITOYENNETÉ: L'INDIVIDU ET LE GOUVERNEMENT LOCAL

Ce cours porte sur l'étude des divers types de communautés telles que la famille, l'école, l'église, le village, la ville, etc. Il porte aussi sur l'organisation d'un gouvernement local dans des organismes tels que l'école, le conseil des étudiants, le conseil de ville ou municipal. Il favorise le développement d'une meilleure compréhension des fonctions diverses des gouvernements locaux/municipaux.

Ce cours doit être intégré au cours d'histoire et de géographie.

8e année

INTRODUCTION À L'HISTOIRE CANADIENNE — DEPUIS 1800

Ce cours de huitième année, la deuxième moitié d'un cours de deux ans, se divise en sept unités: Unité I — L'Amérique du Nord britannique pendant les guerres napoléoniennes; Unité II — L'expansion de la colonisation; Unité III — Les mouvements vers une réforme politique; Unité IV — L'union de l'Amérique du Nord britannique; Unité V — L'âge de Macdonald; Unité VI — Le Canada entre dans le vingtième siècle; Unité VII — Le Canada dans le vingtième siècle.

Les thèmes et les concepts de l'histoire acadienne sont intégrés à l'histoire canadienne, en suivant leur ordre

chronologique, ou d'après leur intégration aux thèmes à l'étude.

GÉOGRAPHIE DES ÉTATS-UNIS

Avec ce cours, les élèves développent les notions et les habiletés géographiques pour une meilleure connaissance des facteurs qui font que les États-Unis jouent un rôle d'influence sur le Canada. On doit développer la compréhension des liens géographiques entre le Canada et les États-Unis.

Les neuf unités qui constituent ce cours sont: Unité 1 — Un aperçu général des États-Unis; Unité 2 — La région du Nord-Est; Unité 3 — Le Sud; Unité 4 — Le Centre-Ouest; Unité 5 — Les grandes Plaines; Unité 6 — Les Montagnes et les Plateaux de l'Ouest; Unité 7 — La côte du Pacifique; Unité 8 — L'Alaska; Unité 9 — Hawaï.

Les études auront avantage d'être faites d'après certains thèmes tels que: 1. La topographie; 2. Le climat; 3. La végétation; 4. L'histoire; 5. La population; 6. Les industries.

Ces six grands thèmes peuvent être étudiés de deux manières: soit à l'échelle du pays, soit à l'échelle d'une région du pays.

Les enseignant(e)s sont encouragés à utiliser des ressources audio-visuelles telles que les photos, les cartes à petite et à grande échelle, les illustrations, les données statistiques et autres moyens qui favorisent le développement des habiletés géographiques.

CIVISME ET CITOYENNETÉ: LE GOUVERNEMENT PROVINCIAL

Ce cours présente aux élèves la structure et les fonctions du gouvernement provincial, ses pouvoirs tels que définient par l'Acte de l'Amérique du Nord britannique, ainsi que les procédures d'une élection provinciale.

Ce cours doit être intégré au cours d'histoire et de géographie.

9e année

ÉTUDES DES MARITIMES

Le programme Études des Maritimes a comme but d'amener les élèves de la 9e année à faire l'étude et l'interprétation de l'ensemble des expériences humaines qui tissent, au jour le jour, la vie des habitants des provinces Maritimes.

L'étude même porte sur le temps présent mais permet un retour en arrière pour mieux comprendre les phénomènes observés. Les divers aspects du milieu physique, du passé, des institutions et des lois, de la conjoncture économique, de la culture sont étudiés. Ces aspects sont étudiés d'une façon intégrée. Les concepts liés aux différentes matières sont examinés à partir de situations ou d'études de cas pour bien faire saisir aux élèves que ce qui peut se concevoir d'une façon isolée au niveau de la pensée, se vit d'une façon intégrée au niveau du vécu. Ainsi l'élève est incité à établir

des relations entre les divers facteurs qui sont en jeu dans une situation et à se rendre compte qu'il n'est pas toujours facile de faire des choix, de prendre des décisions ou de régler des problèmes.

Les onze chapitres qui consistent le cours s'articulent autour des points de vue suivants:

- le point de vue géographique qui met l'accent sur le fait que les habitants des Maritimes créent leur milieu tout en étant dépendants de son influence;
- le point de vue historique qui retrace l'histoire du peuplement des Maritimes et fait ainsi connaître les antécédents de la société actuelle;
- le point de vue sociologique qui présente l'évolution des structures sociales et permet à la fois de sentir la permanence des choses et de connaître les nouvelles réalités sociales;
- le point de vue économique qui explique les rapports entre la production, la distribution et la consommation, et permet de comprendre l'influence de la conjoncture économique sur ces trois types d'activités;
- le point de vue politique qui montre comment chacun de nous influence et est influencé par les institutions politiques et par les prises de décisions au niveau des gouvernements.

L'approche pédagogique qui est privilégiée pour enseigner le cours est la démarche inductive. Celle-ci vise à susciter la *participation active* de l'élève et à lui permettre d'acquérir progressivement une *pensée objective* en rapport avec les informations qu'il ou elle reçoit. Ce processus inductif vise surtout à développer les *habiletés* de présenter des données cohérentes et pertinentes, de discuter de façon méthodique et d'affirmer son sens critique de façon à faire preuve d'un jugement éclairé.

Des activités pédagogiques telles que l'exposé de l'élève, le débat, l'étude de l'actualité, l'observation d'artefacts, la visite éducative, les travaux en équipe, l'interview, le visionnement de films, vidéos ou diapositives sont à privilégier.

Le cours Études des Maritimes doit aussi viser à développer chez les élèves des attitudes de tolérance, de respect d'eux mêmes et des autres, ainsi que de susciter chez eux le sens du rôle de citoyens qu'ils doivent jouer dans la société d'aujourd'hui.

Ainsi le programme, tout en faisant appel aux expériences personnelles des élèves, vise à lui donner une vision plus large de la place des Maritimes dans l'ensemble du Canada et du monde. Les élèves seront amenés à constater la variété de groupes ethniques, linguistiques, sociaux et religieux qui forment la société des Maritimes.

L'évaluation des apprentissages se fera à partir d'une variété d'instruments et visera à amener l'élève à réfléchir, à réinvestir ses connaissances, à faire des analyses et des

synthèses, à s'exprimer à écrit et à l'oral d'une façon claire et correcte.

HISTOIRE ANCIENNE ET MÉDIÉVALE — JUSQU' AUX ANNÉES 1500: (HIS 426)

Ce cours permet aux élèves de développer une compréhension du concept de civilisation en étudiant l'histoire de la civilisation occidentale dès l'origine de l'homme et en étudiant les diverses civilisations qui ont façonné le monde contemporain.

L'étude peut se faire selon les approches suivantes:

- (1) l'approche chronologique; (2) l'approche poste-d'observation (fence-post); (3) l'approche thématique; (4) l'approche des études approfondies.

L'enseignant choisira l'approche ou une combinaison des approches suggérées qui rencontrera le mieux les besoins des élèves.

1. L'approche chronologique permet l'étude des thèmes depuis leurs origines jusqu'aux années 1500 tout en établissant leurs rapports aux situations présentes. Les six grands thèmes sont: (1) L'homme préhistorique; (2) Les civilisations anciennes (le croissant fertile); (3) La Grèce: première civilisation occidentale; (4) Rome gouverne le monde ancien; (5) Le Moyen Age; (6) La Renaissance et la Réforme.
2. L'approche poste-d'observation (fence-post) permet à l'élève de faire la collecte des renseignements de l'histoire ancienne et médiévale. Cette approche est adaptée aux élèves qui éprouvent des difficultés en lecture ou dans le travail de recherche. Quelques-uns de ces divers postes sont: (a) les révolutions néolithique et urbaine; (b) l'art et l'architecture de l'Égypte ancienne; (c) Alexandre le Grand; (d) les forces religieuses, culturelles, économiques et politiques en jeu dans le mouvement Luthérien au début du 16e siècle.
3. L'approche thématique permet l'étude des thèmes qui constituent notre civilisation ancienne et médiévale. Les divers thèmes sont: (a) l'agriculture; (b) l'évolution d'un gouvernement; (c) la religion; (d) les révolutions; (e) les développements scientifiques et technologiques, et l'évolution de l'art.
4. Au moyen de l'approche des études approfondies l'histoire ancienne et médiévale se présente sous les cinq thèmes suivants: (a) l'apparition de l'homme civilisé; (b) l'apparition de la première civilisation occidentale; (c) l'évolution de la civilisation occidentale; (d) l'apparition des nations européennes; (e) le développement de l'homme de la Renaissance.

GÉOGRAPHIE DE L'ASIE: (GEO 326)

Ce cours sur l'Asie, comme celui sur l'Europe, fournit aux élèves un aperçu général de l'Asie tout en concentrant sur les pays qui ont influencé le développement du Canada, et tout en plaçant une emphase sur les besoins des pays sous-développés et en voie de développement. Les études portent

sur les facteurs géographiques et climatiques, sur les modes de vie et sur les industries.

Les unités qui constituent ce cours sont: Unité 1 — L'Asie - ses pays et ses peuples; Unité 2 — L'Asie Nordique et la République de Mongolie; Unité 3 — Le Moyen Orient; Unité 4 — L'Asie du Sud (le sous-continent Indien); Unité 5 — L'Asie de l'Est (la Chine, le Japon); Unité 6 — L'Asie du Sud-est.

Les études peuvent aussi être faites selon l'approche thématique. Les six grands thèmes sont: 1. La topographie; 2. Le climat; 3. La végétation; 4. L'histoire; 5. La population; 6. Les industries.

Ces six grands thèmes peuvent être étudiés de deux manières: soit à l'échelle d'un pays, soit à l'échelle d'une région climatique et/ou géographique, voire les îles de la Sonde, les régions rizières.

Un emploi des ressources audio-visuelles favorisera le développement des connaissances, de la compréhension et des habiletés géographiques.

ÉTUDES DU CANADA: (ECA 326)

Le but premier de ce cours est de fournir aux élèves les occasions de mieux comprendre ce qu'est un citoyen canadien et de connaître les libertés et les responsabilités d'un citoyen.

Les élèves auront les occasions d'identifier et d'analyser les éléments ou les questions politiques, sociologiques, économiques, culturelles et autres qui existent et qui surgissent continuellement de sorte à rendre ce pays un pays toujours changeant. Ces études lui feront connaître les éléments qui lui aideront à vivre et à participer à la citoyenneté.

Ce cours porte une diversité de domaines des sciences humaines en ayant trait entre autres à l'histoire, à l'économie, à la culture. Les sept unités de base qui constituent ce programme sont: Unité 1 — L'environnement physique; Unité 2 — Le pluralisme; Unité 3 — La vie politique; Unité 4 — La vie économique; Unité 5 — Les relations canado-américaines; Unité 6 — Le Canada dans le monde; Unité 7 — La culture canadienne.

HISTOIRE DE L'EUROPE OCCIDENTALE DEPUIS LE 16^E SIÈCLE: (HIS 436)

Ce cours permet aux élèves de développer une compréhension de l'évolution de l'Europe occidentale. En raison de la flexibilité du cours de la 10^e année les enseignant(e)s devront veiller à ce que les élèves aient les connaissances et habiletés qui préparent le cours de la 11^e année.

L'étude peut se faire selon l'approche thématique ou selon l'approche des études approfondies.

1. Les quatre grands thèmes pour l'approche thématique sont: (a) l'absolutisme; (b) la révolution; (c) l'idéologie; (d) les guerres mondiales et les efforts de paix. L'étude de ces thèmes peut se faire en suivant une chronologie ou en concentrant sur une région géographique.
2. L'approche des études approfondies fait usage des thèmes énumérés pour l'approche thématique. Pour chacun des thèmes il est impératif de choisir les éléments pertinents afin d'assurer un déroulement logique sans négliger les étapes significatives.

ÉCONOMIE 336: ÉCONOMIE CANADIENNE (ECO 336)

Ce cours débute avec un aperçu de l'économie locale de la communauté. Cette base économique est suivie d'une étude plus approfondie de certains aspects économiques, tels que: les entreprises privées d'une certaine importance, la composition de la main-d'oeuvre, les syndicats locaux, les niveaux gouvernementaux, les défenses des gouvernements, le régime fiscal. Ensuite l'étude s'élargit à l'économie régionale et provinciale en insistant sur l'étude de l'économie des régions acadiennes et porte sur les industries du secteur primaire, secondaire et tertiaire. La distribution des richesses et des pouvoirs, le mouvement des ouvriers, la liberté de l'entreprise, les corporations de la Couronne, le régime fiscal, les biens économiques avec le reste du monde seront considérés comme partie intégrale de l'économie canadienne. Au cours de cette étude les étudiants seront initiés aux différents principes, théories et questions économiques qui affectent leur vie quotidienne.

12e année

HISTOIRE DU CANADA: (HIS 446)

Le programme de l'histoire du Canada en 12e année peut être enseigné par l'entremise de l'une ou de l'autre des trois approches suivantes: (a) l'approche traditionaliste ou centriste; (b) la perspective des provinces maritimes; (c) les relations canado-américaines.

Dans l'élaboration de ce programme chaque approche est subdivisée en une série de sujets en ordre chronologique, et chaque sujet requiert de une à deux semaines d'exploitation. En raison de l'impossibilité de tout voir dans chaque sujet il est suggéré que ce programme soit constitué d'un minimum de douze sujets représentant les diverses périodes chronologiques de l'histoire canadienne.

Le programme de l'histoire du Canada à ce niveau ne doit pas être une suite infinie de faits historiques, mais il doit continuellement faire appel à la compréhension, à l'analyse, à l'application et à la synthèse.

ÉCONOMIE 446: ÉCONOMIE NATIONALE ET INTERNATIONALE (ECO 446)

Ce cours comprend une étude approfondie de quelques questions économiques choisies ainsi que l'examen de certaines théories. L'unité sur la microéconomie inclue: la loi de l'offre et de la demande, les produits différentiels, la production et les marchés. La macroéconomie étudie: la finance publique, les indicateurs de l'économie et la politique

gouvernementale, la monnaie, le système bancaire et financier ainsi que la croissance économique. L'unité sur l'économie internationale comprend la distribution des richesses naturelles, les finances et les échanges internationaux ainsi que l'aide aux pays étrangers.

Il y a également deux unités facultatives: l'histoire des idées économiques et l'économie comparée.

SCIENCES POLITIQUES: (SPO 446)

Le but fondamental du cours est d'amener les élèves à développer un comportement politique en leur aidant à évaluer et à préciser leurs connaissances des différents systèmes politiques, et à acquérir une meilleure compréhension du processus. Ce cours familiarisera les élèves avec les idéologies et régimes politiques comparés, avec accent sur les différents aspects du système politique canadien.

Le cours est divisé en trois parties:

première partie — les démocraties libéralistes
deuxième partie — les régimes socialistes
troisième partie — les régimes autoritaires

L'étude de la troisième partie "le régime autoritaire" est facultative. L'approche devra tenir compte à la fois du milieu et des besoins des élèves.

Le cours est destiné principalement aux élèves de la douzième année. Cependant à la discrétion des enseignant(e)s, des directeurs et des orienteurs des écoles, certains élèves de la onzième année pourraient y participer.

Sciences de la nature

Guides pédagogiques

Sciences de la nature à l'élémentaire, M à 6e année (No 4, 1977)

Programme et description des cours

Maternelle à 6e année

Le programme de sciences à l'élémentaire expose l'élève à des expériences qui doivent encourager une attitude positive envers les sciences et développer des habiletés scientifiques qui serviront plus tard au développement de concepts scientifiques.

Les habiletés à enseigner sont: l'observation, la classification, l'utilisation des nombres, la mesure, la communication, la prédiction, l'inférence, l'identification de variables, et, dans les dernières années du programme à l'élémentaire, la formulation d'hypothèses, le contrôle des

variables, l'interprétation des données et l'expérimentation. Le développement de ces habiletés et d'attitudes positives envers les sciences assureront une base solide pour le programme du premier cycle secondaire.

À la fin de la 3e année, les élèves doivent pouvoir:

- (a) faire des observations dans la salle de classe et à l'extérieur et les noter, soit verbalement ou numériquement selon le cas;
- (b) classer selon les apparences (couleur, grosseur, texture, forme) et selon les ressemblances et différences (végétal/animal, vivant/ non-vivant, pousser/tirer, rouler/glisser);
- (c) utiliser des nombres obtenus soit en comptant, soit de tables de données, et comparer des mesures;
- (d) mesurer une longueur, un volume, la température et le temps en unités métriques SI;
- (e) communiquer oralement, par des phrases écrites, par des dessins, par de simples tableaux et graphiques à bandes;
- (f) tirer des inférences simples à partir d'activités expérimentales et d'observations.

À la fin de la 6e année, les élèves doivent pouvoir:

- (a) faire des observations quantitatives et qualitatives et les noter sous forme de tableau, graphiquement ou à l'écrit;
- (b) classer selon des critères développés en utilisant de vrais spécimens ou dérivés de leur étude (les animaux comme insectes, amphibiens, mammifères, etc.; les plantes comme plantes à fleurs, plantes ligneuses, plantes sans fleurs, herbes, etc.);
- (c) utiliser des nombres pour mesurer, comparer, faire des graphiques et des calculs se rapportant à des expériences;
- (d) mesurer: une longueur (superficie, volume), le volume d'un liquide, le temps, un angle, la température;
- (e) communiquer oralement, par la rédaction de paragraphes descriptifs, par des diagrammes, des dessins, des graphiques, des tableaux, des tables de données, par la lecture de directives pour faire des expériences et par la lecture des livres de ressources (p.ex. le manuel de classe);
- (f) faire une expérience en suivant les directives données et être capable de concevoir de simples expériences qui permettront de: prédire et vérifier des résultats; offrir des explications pour les résultats observés; interpréter les données de façon logique; identifier et contrôler des variables; suggérer d'autres expériences.

Une planification détaillée du programme de sciences à l'élémentaire doit être faite à l'intérieur de l'école ou du système scolaire, en se référant au guide pédagogique, pour offrir un programme adapté aux locaux, à l'équipement, et aux ressources accessibles, y compris l'environnement extérieur. Les enfants devraient aborder chaque année un ensemble de sujets des sciences biologiques, géologiques et

physiques; le développement de ces sujets devrait se faire selon une séquence planifiée.

Sujets recommandés:

MATERNELLE

Activités concrètes qui enseignent les habiletés d'observer, de classer, de mesurer et de communiquer, telles que la culture de plantes et le soin des animaux, des promenades en pleine nature, des discussions et des activités qui démontrent certains concepts (haut/bas, près/loin, vite/lent, pousser/tirer, rouler/glisser, vivant/non-vivant).

1re et 2e année

- L'utilisation des sens et la classification
- Les propriétés, la mesure et le changement
- Les organismes — graines et plantes
- Les animaux
- L'eau et l'air
- Le mouvement

3e et 4e année

- Les plantes
- L'identification de substances
- La mesure et le mouvement
- Les roches et le sol
- Les êtres vivants et les environnements
- La chaleur
- Le son
- Les aimants

5e et 6e année

- Les communautés d'êtres vivants
- Les cycles de vie des plantes et des animaux
- Les changements chimiques et physiques
- L'électricité
- Les changements que subit la terre
- La météorologie
- La masse, le volume, la flottabilité
- La communication
- Les forces et leurs effets
- Le système solaire et au-delà

7e année à 9e année

À cette étape de leur développement, en plus de se familiariser avec certains concepts des sciences de la biologie, de la chimie, de la géologie et de la physique, les élèves doivent développer des habiletés connexes d'étude, de lecture et de mathématiques. L'accent du programme de sciences au premier cycle du secondaire est sur le développement des attitudes et des habiletés.

7E ANNÉE

Sujets de base: caractéristiques des êtres vivants; introduction à la chimie; force et mouvement; formations et transformations terrestres.

Sujets facultatifs: exposition scientifique; énergie; agriculture; chaleur; sage utilisation de la forêt; option d'intérêt local.

8e ANNEÉ

Sujets de base: classification des êtres vivants; la croûte terrestre; forces magnétiques et électriques; chimie domestique.

Sujets facultatifs: exposition scientifique; énergie; travail et énergie; transmission de chaleur; les sciences dans la pêche; option d'intérêt local.

9e ANNEÉ

Sujets de base: science de l'environnement; modèles chimiques de molécules; densité et pression; introduction à la lumière ou au son; électricité courante.

Sujets facultatifs: exposition scientifique; énergie; météorologie (applications de densité et pression); science de l'océan; option d'intérêt local.

10e année à 12e année

Arrivés à la fin du premier cycle du niveau secondaire, les élèves auront acquis des connaissances générales dans les sciences. Par l'investigation de matériel non-abstrait au laboratoire et en pleine nature, ils auront saisi des concepts et des généralisations. Les cours du deuxième cycle devront élargir et approfondir ces concepts et, de plus, fournir des explications théoriques et abstraites pour les phénomènes qui n'auront été examinés qu'en termes concrets.

En utilisant les ressources de la bibliothèque de l'école, les élèves auront à développer les habiletés de trouver, d'organiser, d'analyser et d'appliquer l'information d'une façon critique et objective.

Les élèves qui prévoient entreprendre des études universitaires reliées aux sciences auront besoin de mathématiques et devraient prendre, en ordre de priorité, PHY 446 (546) ou PHY 441 (541), CHI 446 (546) ou CHE 441 (541), BIO 446 (546) ou BIO 441 (541).

L'océanographie et la géologie sont prévues pour des élèves qui désirent des cours en plus du minimum requis ou pour des élèves qui n'ont pas l'intention de poursuivre des études en sciences à l'université ou dans une école de technologie.

BIOLOGIE 226 (BIO 226)

Ce cours est prévu pour les élèves qui n'ont pas besoin d'un cours en sciences pour être admis à l'université. L'accent est mis plutôt sur les applications pratiques que sur les aspects théoriques de la biologie. En plus des concepts biologiques de base, les habiletés scientifiques et les problèmes de l'environnement font partie du cours. Les activités de laboratoire, les excursions et les projets font aussi partie intégrante du cours.

Sujets à voir: introduction à la biologie et à la science; l'environnement biologique, la biologie de la cellule; la diversité des êtres vivants; la biologie humaine.

Options: une investigation des carrières comportant une orientation biologique; la biologie marine; la microbiologie; l'agriculture; la forêt; le comportement animal.

BIOLOGIE 426 (BIO 426)

On peut aborder ce cours sous deux aspects — un aspect écologique et un aspect traditionnel. C'est l'approche écologique qui est recommandée, mais l'approche traditionnelle est offerte pour les écoles où les conditions rendent la première approche impossible. Les deux approches doivent assurer une introduction à la biologie pour les élèves qui ne poursuivront pas l'étude de la biologie et assurer en même temps aux autres la préparation qu'il leur faut pour continuer des études plus approfondies en biologie. Les processus sont aussi importants que le contenu.

Sujets: écologie; diversité de structure dans les plantes et les animaux; la cellule.

Options suggérées pour une approche écologique: les plantes et les animaux marins; la pollution; la forêt et la vie sauvage; la biogéographie; le sol. Options suggérées pour une approche traditionnelle: le comportement végétal et animal; la morphologie comparée des vertébrés; l'anthropologie.

BIOLOGIE 446 (BIO 446)

Ce cours fait suite à Biologie 426. Les élèves peuvent le prendre en 1^{le} année, mais il est plutôt recommandé qu'ils le prennent après avoir suivi le cours de chimie 436 ou en même temps que ce cours de chimie.

Sujets au programme: reproduction, chimie et physiologie cellulaires, vertébrés, plantes vasculaires, anatomie et physiologie humaines.

Sujets facultatifs: microbiologie, embryologie, questions courantes en biologie, comportement animal et humain.

Le cours comprend aussi des travaux de laboratoire.

CHIMIE 436 (CHI 436)

Le cours de chimie 436 est une introduction aux sciences par la chimie, offrant à l'élève un cours terminal en même temps qu'une fondation pour des études plus poussées. Là où il est possible l'élève aurait dû suivre comme préalable le cours de sciences physiques 426.

Sujets: — introduction; la matière; les solides, les liquides et les gaz; la théorie atomique; la loi périodique; liaisons chimiques; formules chimiques; équations chimiques; stoechiométrie (composition en pourcentage); concept d'une mole; formules empiriques; formules moléculaires; problèmes avec rapports entre masses; chimie organique (introduction, hydrocarbures, hydrates de carbone, biochimie); chimie de l'environnement.

CHIMIE 446 (CHI 446)

Préalables: Chimie 436 (ou 431), Mathématiques 426 (ou 421)

Ce cours est une continuation du cours de chimie 436.

Sujets: — les gaz (loi de Boyle, loi de Charles, loi de Dalton); théorie cinétique moléculaire; lois combinées; problèmes; solutions (solubilité, concentration); électrolytes et non-électrolytes; ionisation; énergie chimique (chaleur de réaction, loi de Hess); vitesse de réaction; théorie des collisions; équilibre chimique; acides et bases (théorie, pH); K_a ; sels et hydrolyse; oxidation et réduction; électrolyse; piles électrochimiques; énergie nucléaire.

Sujets facultatifs: — chimie nucléaire; chimie colloïdale; chimie descriptive.

PHYSIQUE 436 (PHY 436)

Préalables: mathématiques 426 (ou 421); sciences physiques 426 (ou 421) si possible.

Il faut insister sur la physique comme science de base et encourager tous les élèves à l'étudier non seulement comme préparation à des études académiques ou professionnelles, mais aussi comme moyen de mieux comprendre le monde qui les entoure. La physique est essentielle aux études avancées en chimie et en géologie et aussi de plus en plus en biologie.

Pour réussir en physique il faut posséder une habileté de comprendre et d'appliquer des concepts mathématiques. L'enseignant doit être sensible aux problèmes qu'ont certains étudiants sur ce point et les aider, surtout au début du cours.

Sujets au programme: lumière, son, chaleur, cinématique linéaire.

PHYSIQUE 446 (PHY 446)

Préalables: — physique 436 (ou 431) ou 536 (ou 531); mathématiques 436 (ou 431) ou 437 (ou 432).

Ce cours est une continuation de la physique 436.

Sujets: — mécanique (suite); électricité; physique moderne.

SCIENCES PHYSIQUES 426 (SPH 426)

Le but de ce cours est de préparer les élèves pour l'étude de la chimie et de la physique en développant les habiletés mathématiques requises. Il doit porter l'élève à questionner et il exige des travaux de laboratoire et de l'équipement simple mais en quantité suffisante. Ce cours ne doit pas être pris à la place de biologie 421 comme cours régulier en 10^e année: il peut être offert en plus de la biologie dans des écoles où l'on en a identifié le besoin.

Sujets de base: la science et les méthodes scientifiques; la mesure — principes et techniques; les graphiques; volume, masse et densité.

Options: la chaleur; le mouvement; les lois de Boyle et de Charles; la radioactivité; la lumière. L'accent doit être sur le développement d'attitudes positives envers les sciences, sur la confiance en soi, sur la compréhension et l'application des principes et des techniques scientifiques. *Il faut éviter d'aborder le contenu des cours de chimie 436 et de physique 436.*

SCIENCES PHYSIQUES 236 (SPH 236)

Ce cours est prévu comme cours terminal en sciences physiques. L'accent est sur des aspects de la chimie et de la physique que l'on trouve dans des phénomènes ordinaires. Le cours permet aux élèves d'acquérir une connaissance de base de ces sciences dans leurs applications dans la vie courante et dans les diverses carrières. Il faut éviter d'insister sur une terminologie trop technique et sur les abstractions. La liste de sujets à enseigner accorde de la flexibilité dans la planification du cours.

La liste de sujets comprend la chimie, la chaleur, la mécanique et le son. Pour respecter les buts du cours il est nécessaire de prévoir une possibilité de prolonger une période de laboratoire et l'accès à des ressources supplémentaires.

Aide financière pour l'étude des langues officielles

Des programmes de bourses, financés par le Secrétariat d'État, sont administrés par le ministère de l'Éducation.

Les buts premiers de ces programmes de bourses sont:

- (a) de fournir aux Canadien(ne)s de la langue officielle de la majorité en chaque province l'occasion d'acquérir une connaissance de leur deuxième langue officielle;
- (b) de fournir aux Canadien(ne)s de la langue officielle de la minorité en chaque province l'occasion de recevoir leur formation scolaire en cette langue.

Ces bourses ne peuvent être accordées qu'aux étudiant(e)s et aux enseignant(e)s inscrits à des cours de niveau postsecondaire dans un établissement *canadien*. Pour être admis au Programme de bourses — cours de langues secondes, il faut avoir complété la 12^e année. Pour celui des Francophones il faut avoir complété la 11^e année au secondaire.

Les programmes de bourses comprennent:

- 1. Des bourses — cours d'été langues secondes;
- 2. Des bourses de cours d'été de langues pour francophones hors Québec;
- 3. Des bourses de voyage.

4. Des bourses pour enseignant(e)s de la langue minoritaire ou de la langue seconde;
5. Des bourses d'entrée;
6. Des bourses de perfectionnement (Fellowship).

Pour plus de renseignements et pour les formules de demande, on peut s'adresser au: Directeur, Élaboration de programmes (section française), Ministère de l'Éducation, C.P. 578, Halifax, N.-É., B3J 2S9.

Projets spéciaux: le français langue première ou langue seconde

Dépendant de certaines conditions, une commission scolaire peut recevoir de l'aide pour défrayer le coût initial accompagnant la mise sur pied d'un nouveau programme de français langue première ou langue seconde. La commission doit consentir à intégrer à son programme régulier, et à financer de façon ordinaire, tout projet réussi lors de la période d'essai. Elle doit également consentir à suivre les directives contenues dans les guides pédagogiques du ministère de l'Éducation et coopérer à une évaluation du projet menée par une équipe provinciale.

Pour plus de renseignements on peut s'adresser au: Directeur, Élaboration de programmes (section française), Ministère de l'Éducation, C.P. 578, Halifax, N.-É., B3J 2S9.

Guides pédagogiques

Français

- Le français à l'élémentaire, M à 6e année (édition de rodage, Nos 71 à 75, 1981)
 Le jeu et l'expression dramatique à l'élémentaire (No 83, 1983)
 Programme de français, 7e à 9e année (No 85, 1983)
 Programme de français, 10e à 12e année (No. 91, 1985)
 Expression dramatique, 7e à 12e année (1983)

SUPPLÉMENTS

- Le roman, 7e à 12e année (No 14, 1978)
 Une technique de présentation pour travaux écrits au secondaire (No 4, 1977)
 Téléguides, le Monde des petits - français, M-3, pour élèves de langue française
 Téléguides, Peinture et papier - français, 4e, 5e et 6e année, pour élèves de langue française

Arts visuels et arts plastiques

- Arts plastiques, M à 3e année (No 64, 1981)
 Arts plastiques, 4e à 6e année (No 69, 1982)

Éducation physique	Éducation physique à l'élémentaire (No 80, 1983)
	SUPPLÉMENTS
	Éducation physique, M à 3e année (No. 52, 1985)
Hygiène	Hygiène, développement personnel et social, M à 6e année (No 31, 1978)
	Hygiène, développement personnel et social, 7e à 9e année (No 61, 1980)
	SUPPLÉMENTS
	Le vieillissement (No 29, 1981)
Mathématiques	La mathématique à l'élémentaire, M à 6e année (No 28, 1978)
	SUPPLÉMENT
	Points de repère en mathématique, 3e à 6e année (No 45, 1984)
Musique	La musique à l'élémentaire, M à 3e année (No 47, 1980)
	La musique à l'élémentaire, 4e à 6e année (No 89, 1984)
Science familiales	Sciences familiales, 7e à 12e année (No 68, 1981)
	SUPPLÉMENTS
	Sciences familiales pour les enfants et les jeunes en difficulté d'adaptation et d'apprentissage (No 3, 1982)
	Le vieillissement (No 29, 1981)
Sciences humaines	Les sciences humaines à l'élémentaire, M à 3e année (1976)
	Les sciences humaines à l'élémentaire, 4e à 6e année (1976)
	Histoire, secondaire, 7e à 12e année (No 1, 1977)
	La géographie au secondaire, 7e à 12e année (No 30, 1977)
	Civisme et Citoyenneté, 7e à 9e année (No 44, 1979)
	Études du Canada, 10e année No 67, 1981)
	Économie 336 et Économie 446, 11e et 12e année (No 82, 1983)
	Science politique, 12e année (No. 87, 1984)
	SUPPLÉMENTS
	Supplément au programme des sciences humaines, 4e année (No 22, 1979)
	Supplément au programme des sciences humaines, 5e année (No 27, 1980)
	Supplément au programme des sciences humaines, 6e année (No 30, 1981)
	Supplément - Renseignements de base sur la série <i>One World</i> , M à 6e année
Sciences de la nature	Sciences de la nature à l'élémentaire, M à 6e année (No 4, 1977)

**Procedures,
Services,
Publications**

Provincial In-Service Training Workshops

The Department's function in provincial in-service training programs is *to provide a service for school systems by assisting them to train staff to take a leadership role within certain curriculum areas as part of local in-service activities.* Although the provincial in-services are not compulsory, it should be recognized that the *intent* of these sessions is to provide training which boards will follow up locally. For this reason, teachers participating in provincial in-service workshops do not, in fact, count these days as in-service days. These days are to be regarded as "time spent attending institutes or meetings called at the direction of the Minister" — see Regulations Pursuant to Section 3 of the Education Act.

Permission from the school board has to be obtained by school personnel wishing to attend an in-service session.

Education Resource Services

Education Resource Services brings together the resources of the Nova Scotia Provincial Library, Education Media Services, and the Nova Scotia Museum Complex, under one organizational umbrella.

Nova Scotia Museum Complex

The Nova Scotia Museum Complex is made up of 23 museums across the province, with headquarters in Halifax. The Museum collects, preserves and interprets objects which help us to understand the human history and natural history of Nova Scotia.

Museums are informal learning places, offering exciting, mind-stimulating, hands-on experiences with real objects and specimens.

The main branch and three others are open year-round; all other sites welcome school groups during their season, starting May 15 in spring and running until October 31 in fall.

Nova Scotia Museum, Halifax
Maritime Museum of the Atlantic, Halifax
Fishermans Life Museum, Jeddore
Fisheries Museum of the Atlantic, Lunenburg
Wile Carding Mill, Bridgewater
Ross-Thomson House, Shelburne
North Hills Museum, Granville Ferry
Barrington Woolen Mill
Barrington Meeting House

Firefighter's Museum of Nova Scotia, Yarmouth
Sutherland Steam Mill, Denmark
Haliburton House, Windsor
Uniacke House, Mt. Uniacke
Prescott House, Starrs Point
Lawrence House, Maitland
Balmoral Grist Mill, Balmoral Mills
Perkins House, Liverpool
McCulloch House, Pictou
Ross Farm Museum, New Ross
Sherbrooke Village
Cossit House, Sydney
The Dory Shop, Shelburne
Shand House, Windsor

1. Interactive school classes on curriculum-related topics are given at the Nova Scotia Museum and Maritime Museum of the Atlantic in Halifax and at the Firefighters Museum, Ross Farm, Ross-Thomson House and the Fisheries Museum of the Atlantic. All branches welcome class visits. French-language programs are offered at the Nova Scotia Museum.
2. About 30 different school loan kits may be borrowed free from 15 distribution centres across the province. Some are bilingual. These include multi-media kits, collection sets, slide-tapes and a variety of individual artifacts and specimens.
3. The Museum publishes a variety of books and pamphlets on Nova Scotia history and natural history.
4. Temporary and travelling exhibits from local, national or international sources are exhibited at the main branch in Halifax and at regional museums throughout the province.
5. An identification service is available for artifacts and specimens brought in to the Museum.
6. Curatorial staff respond to individual inquiries from teachers and students and will provide in-service and pre-service training about Museum resources of specific history and natural history subjects.
7. The annual *Learning Resources Catalogue*, available each September in *Education Nova Scotia*, or free from the Museum, describes all museum services to schools.

For further information contact: Chief Curator of Education, Nova Scotia Museum, 1747 Summer Street, Halifax, Nova Scotia B3H 3A6 (Telephone 429-4610).

School Library Services

Modern educational programs stress individualized learning. Less emphasis is placed on a single text and learning from a variety of resources suited to the interests and learning abilities of the individual is emphasized. Thus, these programs require a variety of readily available learning materials.

The school library is an integral component of the educational program, and its goals are in harmony with those of the educational program which it serves.

The educational program gives direction, form, and substance to the school library service. The development of such services should not, however, be left to chance. Teachers and library staff share the responsibility for designing and implementing an effective program which synchronizes school library services with curricular needs and the personal needs of the students.

Today's school library, with its diversity of resources, helps students to develop the capacity for efficient and purposeful use of learning resources. Its aim is to encourage students to achieve their potential as learners, as citizens and as individuals.

Resources for schools and teachers include:

1. A consulting service regarding the establishment and development of school libraries and resource centres. The consultant is available to assist school boards, administrators and school library personnel. A small collection of print and non-print materials is maintained, covering such topics as the organization of the school library, selection and creation of resource materials, storytelling and other library programs.

Contact: Co-ordinator, School Library Services, Nova Scotia Provincial Library, 6955 Bayers Road, Halifax, Nova Scotia B3L 4S4 or telephone 453-2810.

2. The Reference Services Section of the Provincial Library offers an interlibrary loan service to school libraries, not to individual teachers.

Contact: Co-ordinator, Reference Services Section, Nova Scotia Provincial Library, 6955 Bayers Road, Halifax, Nova Scotia B3L 4S4 or telephone 453-2810.

For further information on other Provincial Library services contact the Provincial Library at 453-2810.

Education Media Services

Education Media Services combines a film library, a video and audiotape dubbing service and an audio-visual equipment repair service with a small production unit which prepares curriculum-related resources in most media for use in schools. In-house production is limited to needed resources which cannot be obtained from the sources which supply the bulk of the holdings in the two EMS libraries: private distributors, other provincial media authorities, CBC, NFB, and private industry.

The resources of both libraries offer a wide range to support the curriculum in most subject areas, at all grade levels, P-

12. All are curriculum related. Separate catalogues of film, videotape, and audiotape holdings at EMS are available in every school in the province for the convenience of teachers wishing to borrow or copy specific titles. At present, approximately 8200, 16 mm films and 3100 videotapes are available.

DISTRIBUTION ARRANGEMENTS

Film Library — All film library holdings may be borrowed by mailing to the library order forms available in every school. Only long-distance telephone orders are accepted, so as to give teachers in all regions equal access to films, and all film bookings are on a first-come, first-served basis. Early booking is encouraged. Films are shipped by mail on a free return basis, except in the immediate vicinity of Halifax-Dartmouth, where the concentration of schools makes a free delivery service more economical.

Audio/Videotape Duplication — EMS holdings in the audio and videotape dubbing collection are never loaned, in order to preserve them in good condition; however, a copy of any title in either collection will be made at no charge to any teacher requesting it. Every request must be accompanied by sufficient blank audiotape or videotape in an appropriate format. See the audio and video catalogues for the tape formats EMS can support. All school orders are filled on a first-come, first-served basis. Copied programs include teaching guides and other support materials if they are available.

Television Broadcasts — CBC — A broad offering of EMS video holdings is broadcast over the CBC network in Nova Scotia, from 9:30-10:30 a.m., Monday to Friday, during each school year. Because class scheduling in secondary schools cannot be adapted easily to the limitations of broadcast television, these programs, with only a few exceptions, address only the P-6 school audience. Comprehensive teachers' guides and schedules for these broadcast series are mailed to all elementary schools at the beginning of each school year. Teachers are encouraged to consult these publications for specific information on the programs which will best fit their needs.

Atlantic Satellite Network — Under the current licensing agreement between the Canadian Radio and Telecommunications Commission and the Atlantic Satellite Network, the Department of Education has control of up to four hours of daily broadcast time. Though the Department makes part of this time available to post-secondary institutions throughout the Maritimes, the bulk of ASN educational broadcasts come from the EMS video library holdings. Film holdings are rarely broadcast because in most cases broadcast rights to films are prohibitively expensive. All EMS broadcasts over ASN may be copied off-air onto videotape except where specifically prohibited, and broadcast schedules are periodically sent to all school districts for distribution to teachers who may be interested in obtaining specific programs. As far as possible, the

schedule is designed to reflect broadcast requests to EMS by teachers in the field.

Slide/tape and filmstrip program — A wide variety of these "small format" programs, either produced or purchased by EMS, are available to schools. A few specific titles may be purchased from the School Book Bureau at cost, but in most cases, large numbers of kits are shipped to all school districts for permanent distribution to resource centres or schools teaching the target grade levels. In each case, the number of kits varies according to the potential size of the school audience and the nature of each production's funding. Teachers should consult their resource centres and school libraries for local holdings.

EQUIPMENT REPAIR SERVICE

EMS generally accepts for repairs any audio-visual equipment submitted by provincial schools except videotape recorder/players and computers. The EMS repair facility charges a nominal fee of five dollars per machine submitted, to cover shop materials, but no labor charges are levied. The price of any parts purchased to make the repairs is charged at cost to the school or board submitting the machine. All repairs are undertaken in order of receipt and the equipment is shipped on a free return basis, except in cases where particular boards operate a pick-up and delivery service. Many repairs are unduly delayed because parts for cheaper lines of equipment are not readily available.

MICROCOMPUTER RESOURCE LAB

In co-operation with Curriculum Development, software and hardware are evaluated for possible inclusion in school programs. Most software in the lab cannot be copied, but a small collection of public domain software can be copied for Apple, Commodore and IBM computers. Teachers are encouraged to visit the lab to preview software and hardware.

For further information on any service offered by Education Media Services, please consult the various EMS catalogues, or contact:

Education Media Services
6955 Bayers Road
Halifax, Nova Scotia
B3L 4S4
(telephone) 453-2810

Public School Correspondence Courses

The Nova Scotia Department of Education, through the Correspondence Studies section, provides the opportunity for eligible Nova Scotian school-age students and adults to gain an education from grade 1 to grade 12 through public school correspondence courses. Some technical correspondence studies courses are also available.

All correspondence public school courses endeavor to follow as closely as is feasible the course of studies prescribed for the schools of Nova Scotia and are frequently revised to keep pace with course changes. With few exceptions, specifically selected materials from the authorized lists are used with correspondence courses.

The courses are written and evaluated by experienced educators who understand the difficulties of students who must study at home.

For detailed information with respect to eligibility contact: Supervisor, Correspondence Studies, P. O. Box 1650, Halifax, Nova Scotia, B3J 2Z2.

Who May Enrol for Correspondence Instruction

Any of the following persons are eligible for public school correspondence courses:

1. A Nova Scotia resident who is beyond compulsory school age (16 years) and is not enrolled in a public or private school.
2. An adult who normally resides in Nova Scotia and who will be temporarily absent from the province. An applicant who will be leaving Canada must provide the name and address of a Nova Scotia resident who will act as liaison and assume responsibility for forwarding books, lessons, and marked assignments.
3. Children (6 to 16 years of age) living in Nova Scotia who may be legally excused from attending school. In such cases the application must be supported by a recommendation from the principal and local inspector of schools. Parents wishing to apply for enrolment for a child should complete the application form and send it together with the child's last school report to the inspector who will then forward the application to Correspondence Studies. If illness is the reason for the child's inability to attend school, the application must be accompanied by a medical certificate stating the reason for non-attendance and the approximate length of time the child will be absent from school.
4. Students attending school. The Supervisor, Correspondence Studies may admit a student to grades 7-12 correspondence courses under any of the following circumstances:
 - (a) The course is not offered in school.
 - (b) The student is faced with timetable conflicts. In such cases applications should reach the Correspondence Studies office as soon as possible after the beginning of the school year
 - (c) The student wishes to study a subject during the summer months. In such cases, applications should reach Correspondence Studies no later than July 10. *No courses are prepared specifically as summer school courses.*

- (d) Special circumstances. The special circumstances must be stated in a letter from the school principal.

In all cases courses will be available to students attending school only on the recommendation of the school principal, and/or the superintendent of schools.

5. School age students who normally reside in Nova Scotia but are temporarily living abroad with their parents or guardians. A parent applying for enrolment of a child who temporarily resides outside Canada must give the name and address of a person in Nova Scotia who will act as a liaison and who will assume responsibility for forwarding books, lessons and marked assignments.

Provincial Testing Programs

The Department of Education conducts two types of province-wide testing.

The Nova Scotia Standards Project is conducted annually in elementary schools. Intelligence and achievement tests are administered to a sample population in order to monitor student performance in basic skill areas.

The Nova Scotia Achievement Tests are administered to students in their final years of both junior and senior high in order to determine the extent to which the educational objectives and priorities of local systems or schools are being met in more than 30 specific skill areas.

The use of these tests becomes more meaningful when schools and systems have clearly delineated their aims and objectives and identified their priorities. In this way the test results may indicate to senior administrative officials those curricular areas requiring more attention and may indicate a need for reallocation of both human and material resources within their respective systems or schools. Reports are prepared and presented to every school system in the province. Any system requiring assistance in the interpretation of test results should contact the Assistant Director, Research (Testing), Department of Education, P.O. Box 578, Halifax, B3J 2S9.

The Education Incentive Program for Black Students

The Education Incentive Program for Black Students was established in 1965 by the Government of Nova Scotia.

The aim of the program is to provide financial incentives for Black students so they will be encouraged to continue their education beyond elementary school, develop leadership

potential, and meet educational, career and professional objectives.

The program is divided into two categories and students are eligible for one award only.

1. University Entrance Scholarships and Post-Secondary Promotion Awards
2. Secondary Promotion Awards

For further information, write to: The Secretary, Education Incentive Program for Black Students, Department of Education, P. O. Box 578, Halifax, Nova Scotia B3J 2S9.

Financial Assistance for Official Language Studies

The Department of Education administers bursary programs funded by the Secretary of State.

The main purposes of the bursary programs are:

- (a) to provide an increased opportunity for Canadians of the majority official language group in each province to acquire a knowledge of their second official language;
- (b) to provide an increased opportunity for Canadians of the minority language group in each province to be educated in their own language.

Bursaries can be awarded only to students or teachers enrolled in post-secondary *Canadian* institutions. (In Nova Scotia a completed grade 11 meets the requirements for the Summer Language Bursary Program.)

These bursaries include:

1. Summer Language Bursary Program;
2. Summer Language Bursary Program for Francophone students outside Québec
3. Travel Bursaries;
4. Bursaries to Second-Language and Minority-Language Teachers;
5. Entrance Bursaries;
6. Fellowships.

Information and official application forms may be obtained from: Director, Language Development, Curriculum Development Program, Department of Education, P.O. Box 578, Halifax B3J 2S9.

Special Projects: French First or Second Language

Under certain conditions, a school board may receive short-term assistance to defray initial costs necessary to set up a new French first or second language program. The board must agree to integrate into its regular program, financed in the usual way, any project which proves successful during this trial period. It must also agree to follow Department of Education program guidelines and to co-operate in an evaluation of the project by a provincial team.

For further information, contact: Director, Language Development, Curriculum Development Program, Department of Education, P.O. Box 578, Halifax B3J 2S9.

Teaching Guides

Television Guides

Guides for teachers using educational telecasts are available from Education Media Services, 6955 Bayers Road, Halifax, Nova Scotia B3L 4S4.

List of Authorized Instructional Materials

- A. Elementary School
- B. Junior-Senior High School
- C. Matériel d'enseignement en français
- D. Specialized Reading Needs and Special Education, All Levels
- E. Microcomputer Software

NOTE: These lists are available through Inspectors' offices.

Art

GUIDES

- Art, Primary to Six (No. 20, 1977)
- Art, Grades 7-9 (No. 21, 1977)
- Art, Grades 10-12 (No. 43, 1979)

SUPPLEMENTARY DOCUMENTS

- Nova Scotia School Television Program Teaching Guide for Art, Levels 2 and 3
- Nova Scotia School Television Program Teaching Guide for Art, Levels 4 to 6
- Art Primary-3 (Supplementary Document No. 37, 1982)
- Art 4-6 (Supplementary Document No. 40, 1983)

Business Education

GUIDES

- Accounting (No. 54, 1980)
- Office Procedures (No. 55, 1980)
- Recordkeeping (No. 56, 1980)
- Shorthand and Transcription (No. 57, 1980)
- Typewriting (No. 58, 1980)
- Business Organization and Management (No. 62, 1980)
- Business Communications (No. 66, 1980)
- Consumer Education (No. 25, 1977)
- Data Processing (Draft outline, 1984)
- Introduction to Word Processing (Supplementary Document No. 46, 1983)
- Law in High School (No. 10, 1978)
- Business Mathematics (No. 83, 1984)

Computer Education

GUIDES

- Guidelines for Using Microcomputers in the Elementary School (No. 104, 1987)
- Computer Education in the Junior High School (No. 105, 1987)
- Computer Related Studies, CRS 331 and 441 (No. 106, 1987)

English Language Arts

GUIDES

- Language Arts in the Elementary School (No. 86, 1986)
- Adjusted Program (Academic), English Language Arts (No. 65, 1980)
- English Language Arts 7-12 (No. 79, 1983)
- Guidelines for the Teaching of Canadian Literature (English 442) (No. 78, 1982)
- Drama in the Elementary School (No. 2, 1972)
- Manuscript and Cursive Writing in the Elementary School (No. 11, 1971)
- Learning About Language in the Elementary School (No. 36, 1978)
- Literature in the Elementary School (No. 24, 1978)
- Let's Plan for Oral Language Development in the Elementary School (No. 24, 1977)
- Let's Plan for Improved Listening in the Elementary School (No. 23, 1978)
- Writing in the Elementary School (No. 29, 1979)
- Spelling 2 to 8 (No. 26, 1978)
- The Novel in Junior High School (No. 7, 1974)
- Media, An Outline for Study (No. 3, 1971)
- A Guide to English Language Study (No. 5, 1972)
- Reading Across the Curriculum 7 to 9 (No. 29, 1978)
- Notes and Suggestions for Teaching of High School English (No. 13, 1969)
- The Novel in Senior High School (No. 3, 1969)
- Developmental Drama/Theatre Arts (No. 5, 1977)
- Language and Learning Across the Curriculum (No. 26, 1980)
- ETV Guide for English Language Arts, The Story Machine, Levels P, 1, 2
- ETV Guide for English Language Arts, Levels 4, 5, 6

Health Education

Health Education, Growth and Development, Levels P-6
(No. 3, 1977)

Health Education, Growth and Development, Levels 7-9
(No. 19, 1978)

Home Economics

GUIDES

Home Economics, A Program Guide (No. 2, 1977)

Home Economics, Exploring Childhood (No. 12, 1978)

Home Economics in Senior High School (No. 18, 1978)

Home Economics for Children and Youth With Exceptional
Learning and Behavior Characteristics (No. 6, 1977)

Home Economics: A Program Guide for Aging (No. 7,
1978)

Independent Living/The Canadian Family (No. 107, 1988)

Industrial Arts

GUIDES

Construction Technology (No. 9, 1976)

Communications Technology (No. 12, 1977)

Manufacturing Technology (No. 23, 1977)

Industrial Arts Program Handbook (No. 49, 1980)

SUPPLEMENTARY DOCUMENTS

Industrial Arts Metric Implementation Guide (No. 6, 1978)

Industrial Arts Resource Book (No. 42, 1983)

Home Technology (No. 43, 1983)

Power Technology (No. 44, 1983)

Industrial Arts Resource Book (No. 53, 1985)

Industrial Arts Resource Book (No. 57, 1988)

LANGUAGES

French — Second Language

GUIDES

French Core Program, Introductory Level (No. 2, 1977)

French Core Program, Intermediate Level (No. 21, 1978)

French Core Program, Senior Level (No. 22, 1978)

French, Communications (No. 19, 1977)

Reading, French, Second Language, Introductory to Senior
Levels (No. 42, 1979)

ETV Guide, *Qui est là?* for French, Levels 5 and 6

Gaelic

GUIDE

Gaelic, A Teaching Guide

German

GUIDE

German, Grades 10, 11, 12, revised edition.

Latin

GUIDE

Latin, Grades 9-12 (No. 40, 1979)

Spanish

GUIDE

Espanol, Guidelines for the Teacher (No. 4, 1976)

Mathematics

GUIDES

Adjusted Program, Mathematics (No. 53, 1980)

Mathematics P-6 (No. 17, 1977)

Mathematics Seven and Eight (No. 13, 1978)

Mathematics Nine and Ten (No. 81, 1983)

Mathematics 221, 231, 241 (No. 18, 1977)

SUPPLEMENTARY DOCUMENTS

Checkpoint Strategies (No. 25, 1980)

Mathematics Nine, A Supplementary Teaching Guide
(No. 51, 1984)

The following are available from the Nova Scotia School
Book Bureau.

Mathematics 431: A Study Guide (Part 1)

Mathematics 431: A Study Guide (Part 2)

Mathematics 441: A Study Guide (Part 1)

Mathematics 441: A Study Guide (Part 2)

Music

GUIDES

Music P-4 (No. 76, 1981)

Music 5-9 (No. 46, 1980)

A Supplementary Program for Children With Special Needs
(Grades P-6) (No. 5, 1977)

A High School Course in *Canadian Music Studies*
(CMU 331)

Personal Development and Relationships

GUIDES

Education and Career Explorations, Grade 7 (No. 99, 1987)

Education and Career Explorations, Grade 8 (No. 103,
1987)

Physical Education

GUIDES

Physical Education, Part I, Aims and Objectives (P-12)
(No. 5, 1970)

Physical Education In the Elementary Schools, Book I,
Levels P-3 (No. 4, 1975)

Physical Education in the Elementary Schools, Book II,
Levels 4-6 (No. 8, 1976)

Physical Education in the Junior High School, Levels 7-9
(No. 14, 1977)

Daily Physical Activity, P-6 (No. 92, 1985)

Physical Education, 7-12 (No. 90, 1985)

SUPPLEMENTARY DOCUMENTS

Fitness Development in the Public Schools

Intramural Programming in the Public Schools

Orienteering

Canoeing

Touch Football

Outdoor Education—A Resource Book (No. 23, 1980)

Elementary Resource Book for Daily Physical Activity
(No. 55, 1985)

Physical Education for Children with Special Needs, Grades
Primary-12 (No. 100, 1987)

Science

GUIDES

Science in the Elementary School (No. 35, 1978)
Science in the Junior High Schools (No. 98, 1987)
Adjusted Program (Academic), Science (No. 53, 1980)
Biology 221 (No. 33, 1978)
+Biology 421, 521, 441, 541
Chemistry 431, 441, 531, 541 (No. 108, 1988)
Geology 241 (No. 9, 1977)
Geology 441 (No. 38, 1978)
Oceanography 331 (No. 84, 1983)
Physical Science 421 (No. 34, 1979)
Physical Science 231 (No. 41, 1979)
Physics 431, 441, 531, 541 (No. 93, 1985)

+Planned for publication in 1988

SUPPLEMENTARY DOCUMENTS

SI Metric Guide for Junior and Senior High Schools (1978)
Oceanography Handbook (1983)
Mathematics Physics Problems for Physics 431 and 441
(No. 54, 1985)
Safety In The Chemistry Laboratory (No. 47, 1984)
A Safety Manual for Science Laboratories and Classrooms
(No. 48, 1984)
Safety In-Service Bulletin (No. 49, 1984)

Social Studies

GUIDES

Social Studies for Elementary Grade Levels (No. 1981)
Junior High Social Studies Grade 7 & 8 (No., 1988)
+Maritime Studies (Grade 9)
Adjusted Program (Academic), Social Studies (No. 63,
1980)
*History: Grades 7-12 (No. 7, 1976)
Modern World Problems (No. 10, 1976)
Sociology 341 (No. 14, 1978)
Economics 11, 12, (No. 15, 1978)
Canada Studies 10 (No. 17, 1979)
Political Science 12 (No. 27, 1978)
Geography 10-12 (No. 39, 1979)
Law in High School (No. 10, 1978)

*Only grades 10-12 are applicable.

+Planned for publication in 1988.

SUPPLEMENTARY DOCUMENTS

Nova Scotia and Atlantic Canada (No. 36, 1981)
British History, Grade 9 (No. 39, 1983)

Special Education

GUIDES

Special Education Curriculum Guide for Trainable Mentally
Handicapped Students (No. 45, 1979)
Special Education Curriculum Guide for Teachers of
Educable Handicapped Students Ages 5-21 (No. 60,
1980)

SUPPLEMENTARY DOCUMENTS

Learning Disabilities Handbook, Document No. 34, 1981
Administrative Handbook, Special Education, Document
No. 24

Student Services

Speech and Language Service, A Special Education Handbook, (No. 38, 1983)
Special Education Resource Program, An Administrative Handbook (No.50, 1984)
Special Education, Resource Programs, Supplementary Document (No. 50, 1984)
Special Program In-Service Kits

GUIDES

The Role and Function of Guidance Counsellors in Secondary School (No. 7, 1976)
The Role and Function of Guidance Counsellors in Junior High School (No. 16, 1977)

SUPPLEMENTARY DOCUMENT

Guidance in the Classroom, A Resource Book For Adjusted Programs (No. 41, 1983)
Work Experience Guidelines (No. 17, 1978)
Career Education: Resource Book (No. 19, 1978)